

Vol. 12, No. 6

TAMPA, FLORIDA, JUNE, 1931

15 Cts. A Copy

Vital Topics Chronicled This Month

Comments Relative to Exchange Withdrawal from
Clearing House by Various Leaders in
The Industry in the State

Trend of Fertilizer Practice with Reference to Citrus
Culture in Florida
By J. J. Skinner

Citrus Grove Practice On the High Pine Lands
By N. H. Vissering

Snively Heads the Florida Citrus Exchange

Grove Practices Along the Indian River
By L. R. Highfill

Utilization of Citrus Fruit
By Flavin Gleason

Citrus Comments
By Charles D. Kime

Impressions
By the Impressionist

J. FRANCIS COOPER, EDITOR
AGRICULTURAL EXPERIMENT STATION

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whitefly
control



Florida Insecticide Company
Apopka, Florida

**Do
YOU
Want a Repetition
of the Crisis
That Existed
In The
Citrus Business
In 1928?**

See Next Page

OF COURSE, the answer to the query on the preceding page is "NO."

Most of you growers will recollect the chaotic conditions prevalent in 1928 which brought about the organization of The Florida Citrus Growers Clearing House Association.

In case your memory may be faulty, the mere mention of grower pitted against grower, of selling organization pitted against selling organization—of utter demoralization in matters of grade and pack and an outlook of hopelessness facing virtually everyone associated in any way with the citrus industry, doubtless will serve to refresh your memory.

It is admitted that the Clearing House Association has made mistakes. Who has not? There have been times when this body has not functioned to perfection. What new organization does?

Yet, if the Clearing House had been only 25 percent as effective and efficient as it was, we maintain that it has served and is serving the growers of Florida as a whole in a manner which has meant greatly increased revenue to them.

And it stands to reason, now that the period of organization has been passed—now that a perfected organization is serving its membership, the Clearing House next season and in all future seasons, will continue to serve with even greater efficiency.

What this organization accomplished for the growers of Florida during the Mediterranean Fruit Fly difficulty was worth many times the cost of the Clearing House.

See Next Page

THE same statement could be made regarding the accomplishments of this body in the matters of establishing proper grades and packs, in winning the Brogdex suit and especially in coordinating the efforts of various selling organizations in this state.

This past year despite any mistakes, real or imaginary, which may be charged, and in the face of a most serious business depression, the Clearing House furnished its own answer. With a crop which exceeded any previous crop by several million boxes the growers received an average of 17 cents per box more for their oranges than during any preceding peak year.

Yet despite these incontrovertible facts the state's largest shipper has withdrawn from this organization.

Was it realized that such action might result in the disruption of the Clearing House?

If such a thing were to happen it would simply mean that the Florida citrus industry would revert to the conditions which prevailed before the organization of the Clearing House.

The Clearing House does not question the right of any grower or shipper to withdraw from this organization. But it does assert that this organization which was formed and has functioned for the sole purpose of bettering the condition of the individual growers will continue to serve that purpose so long as it has the support of the thousands of growers who now, more than ever, are backing this organization with their unqualified approval.

See Next Page

DURING the past season your membership in The Florida Citrus Growers Clearing House Association cost you only 2c per box.

By no conceivable stretch of imagination could you secure so effective a service at so small a cost through any other medium—nor a service which would even begin to reflect the same measure of profit to your individual pocket book.

The management and directorate of the Clearing House stand solidly behind its action in refusing to acquiesce in the demands which brought about the resignation of its largest shipper member. To have done so would have stripped the Clearing House of its powers to serve the growers in any worthwhile effort.

Too strong a sentiment for the Clearing House has already been evidenced to warrant the belief that any great number of growers will be stampeded into withdrawing from this organization.

Answering the query on the first page of this advertisement, again, we know your answer is "NO."

Upon YOU rests the responsibility—you cannot want a repetition of the crisis that existed in the citrus business in 1928!



Winter Haven

—::—

Florida



Vol. 12

TAMPA, FLORIDA, JUNE, 1931

No. 6

Trend of Fertilizer Practice With Reference to Citrus Culture In Florida

By J. J. Skinner, Senior Biochemist, Soil Fertility Investigations, Bureau of Chemistry and Soils,
United States Department of Agriculture.

Since the World War no industry, possibly, has undergone such rapid changes as the fertilizer industry, and these changes have played a significant part in the post-war development in agriculture. The challenge flung to the world's manufacturers of chemicals at the outbreak of the war to supply nitrogen compounds with which to furnish modern explosives for the armies was met by an almost miraculous development of nitrogen fixation plants whose products have become available to agriculture. A campaign of research and industrial development has since resulted in the production of a number of concentrated nitrogen compounds having desirable chemical and physical qualities for use in fertilizer mixtures with phosphate and potash or for separate applications.

In the earlier years the class of nitrogen material, commonly spoken of as organics, filled a big place in the fertilizer industry. Many of these have found a more profitable use since the advent of cheaper supplies of synthetic and by-product inorganic nitrogen.

Prior to 1914 less than 100,000 tons of nitrogen were supplied in the

world annually by air fixation processes as compared to three-quarters of a million tons of nitrogen supplied by Chilean nitrate and by-product ammonia. In 1929 one and a quarter million tons of pure nitrogen were supplied by air fixation processes, which is somewhat more than was supplied by Chilean nitrate and by-product ammonia that year. Experts predict that by 1935 the world's supply of combined nitrogen will be substantially in excess of three million tons and that 70 per cent of that supply will be represented by nitrogen fixation product.

The method developed for producing phosphates for the fertilizer industry have undergone changes almost as striking as those noted for producing supplies of combined nitrogen. Processes have been devised for the manufacture of phosphoric acid by smelting phosphate rock in electric and blast furnaces thereby permitting the production of more concentrated superphosphate. The manufacture of ammonium phosphate, with synthetic nitrogen and phosphoric acid as raw materials, has assumed large proportions.

With large supplies of concentrat-

ed nitrogen and phosphorus compounds available, there has been notable progress in the economical manufacture of mixed fertilizers. From year to year these have shown an increase in units of the plant food elements, nitrogen, phosphorus and potassium. Early in the present century mixed fertilizers containing 10 units of plant food were not uncommon. Within recent years preference has been given to the manufacture of mixtures containing 15 to 20 units of plant food, and the user of fertilizer can obtain mixtures containing 50 or even more units of plant food if he wishes. A survey made by the National Fertilizer Association in 1928 showed that the fertilizer then used in Florida for citrus had an average of 18 units of plant food. With the increased use of commercial fertilizers this figure is undoubtedly higher today.

Obviously, the greater the concentration of nitrogen, phosphoric acid and potash in fertilizers, the less these contain of other salts and of

*Presented at the Florida State Horticultural Society, Miami, Florida, April 15, 1931.

(Continued on next page.)

impurities, and the quicker is the relative solubility of these plant food mixtures. The use of these modern fertilizers creates new problems for the grower, especially when used on thin sandy soil containing but little inherent nutrient materials or when used to grow a crop such as the citrus tree which is subject to nutritional disturbances and sensitive to a deficiency or an excess of any essential plant food. These concentrated materials are a great contribution to agriculture and they have a very distinct place in the fertilizer industry. However, there is much to learn of the effect of these materials on tree growth and fruit quality. The results of carefully planned field and laboratory experiments should guide the grower in their use. Consideration should be given the chemical nature of the compounds, the quantity employed and time and method of application. An appreciable tonnage of concentrated chemical fertilizers is being used in various sections of Florida by growers and the results are being watched with interest.

In the production of Florida's citrus fruit with modern fertilizer materials there is much research still to do and a need for far-reaching technical work in developing a fertilizer practice for growing and maintaining healthy and thrifty trees capable of producing large yields of quality fruit. With the development of cheap chemical fertilizers and a growing scarcity and higher cost of organic nitrogen material, what will be the trend of fertilizer practice in producing citrus economically?

With recognition of the value of nitrogen application on tree growth and yield, and the value of potash on fruit quality, there seems to have come a tendency in localized sections to break away from the stereotyped practice of applying a fixed analysis three times a year. Some growers make separate applications of nitrogen, phosphate and potash as their judgment dictates. However, the established custom of applying mixtures periodically undoubtedly prevails in the most highly developed citrus belts. Frequently the grower uses, in addition to the standard mixtures, an extra application or two of quick acting nitrogen and may find that tree appearance is improved, but fruit quality reduced. The use of excessive amounts of nitrogen results in a coarse fruit. H. D. Young

(1) working at the California Experiment Station, has shown nitrogen to be a limiting factor in crop production, but on the soil worked with, it produced an orange with a smaller percentage of sugar and with less juice.

Climatic conditions may influence the practice of an experienced grower who regularly uses a balanced mixture of nitrogen, phosphate and potash. If his trees are sluggish and appear underfed he applies additional nitrogen; on the other hand if the foliage appears unusually green, and the wood is soft, he applies additional potash. He strives to maintain a nutritional balance which will result in healthy trees capable of producing large yields and good fruit. Citrus production is not simple. Experience is costly. In the absence of scientific data, time and money can be saved by adopting the methods others have tested and proved with profit.

In reviewing the results of technical research, that of Reed and Haas (1) of the California Experiment Station should be noted. Their excellent researches on nutritional problems of orange trees have shown the effects of a deficiency or of an excess of potassium, sodium, calcium, and nitrogen in nutrient solutions resulting in an abnormal foliage and root development. Their technical work on the absorption of nutrients by citrus has extended our knowledge of problems in nutrition and of the tree, but it is for the agronomist and the practical grower to work out fertilizer methods applicable to field conditions in Florida. Experiments with fertilizers which have been in progress at the Lake Alfred Experiment Station are yielding valuable results by demonstrating that certain nitrogen materials are best adapted to soil conditions prevailing in that section. In recent reports of R. W. Ruprecht, (2) results are given showing that mineral nitrogenous fertilizers, sodium nitrate and sulphate of ammonia, gave as large yields of oranges and grapefruit as did organic nitrogen materials or mixtures of minerals and organics. It is stated that tree growth on all plots was the same.

Experiments are being conducted cooperatively by the Bureau of Chemistry and Soils and the Florida Station with fertilizers containing a number of synthetic salts in various combinations. These experiments were begun in 1927 in a young Valencia grove near Lake Alfred. On the one hand eight fertilizer mixtures are used, each containing approximately 60 units of plant food, including nitrogen, phosphoric acid and potash made from chemicals such as ammonium phosphate, treble superphosphate, urea, ammonium nitrate, ammonium chloride, potassium ammonium phosphate, sodium nitrate, sulphur of ammonia and potash salts. On the other hand fertilizer mixtures are used, containing approximately 20 units of plant food, made from superphosphate, sulphate of potash, sodium nitrate, sulphate of ammonia, fish scrap, tankage and blood. The effects of the concentrated fertilizers are compared with the effects of the old-line fertilizers on tree growth and fruit yield and quality and shipping quality. Tree growth and fruit yield thus far compare favorably in the different plots. The grove is still young and so far the results obtained are not definite or conclusive. A study of the quality of the fruit was begun this season, and the results should be considered as preliminary. The fruits grown with the old-line fertilizers were slightly heavier and larger and after shipment withstood more pressure without crushing than those grown with most of the concentrated mixtures.

Shipment was made of two sets of seedling oranges this season from a grove near Orlando. For five years the grower had used concentrated pure salt fertilizer on one section of his grove, and on another section old-line materials, both receiving the same units of plant food. The oranges grown with the older fertilizer materials were 6 per cent heavier and larger than those grown with the concentrated fertilizers. The fruit grown with the older materials after shipment withstood more pressure without crushing than those grown with pure salt chemicals. These indicative results should be followed up with well controlled experiments on a number of soil types in the state.

Plans are being formulated for a few experiments with concentrated fertilizers, not merely to compare different sources of nitrogen but to

(Continued on page 32.)

(1) H. D. Young, Effect of Fertilizers on the Composition and Quality of Oranges. *Journal of Agricultural Research*, Vol. 8, No. 4 (1917).

(1) H. S. Reed and A. R. C. Haas. Effect of Sodium Chloride and Calcium Chloride upon Growth and Composition of Young Trees. University of California Publication: Agricultural Scientific Technical Paper, No. 4 (1923). Also Studies on the Effect of Sodium, Potassium, and Calcium on Young Orange Trees *ibid* No. 11 (1923), and Absorption of Ions by Citrus and Walnut Seedlings; *Hilgardia*, Vol. 2, No. 4 (1926).

(2) R. W. Ruprecht. The New Idea in Citrus Fertilization. *The Citrus Industry*. Vol. 11, No. 9 (1929).

Grove Practices Along The Indian River

By L. R. Highfill, Cocoa, Fla., at Meeting State Horticultural Society.

The early growers were from necessity forced to do the greater part of their cultivation by hand labor, and with no more improved equipment than a one mule plow and harrow. From this we naturally find that they did as little cultivation as possible. Their biggest task, after the land was once cleared, was to cut down the heavy vegetative growth from time to time, and hoe in their fertilizer. This practice of limited cultivation has been handed down and today, and even with more systematic planting and improved tools, the cultivation in all hammock groves is comparatively small. There is one thing that has always impressed me in this system of cultivation by hand followed by the early growers, and which is practiced very extensively even today; in these famous hammock groves north of Titusville, on Merritt Island, and along the ten mile section of Fort Pierce, it has automatically brought with it a system of making the individual tree the unit of attention, and not the acre or the whole grove. Not one tree escapes the attention of the owner as he leads or directs the hand work through these groves. It becomes his aim to make every tree do its best. Every tree comes before his inspection and if there is some special attention needed, the tree gets it. I believe that if the growers of the state of Florida would adopt the individual tree as the unit of care, instead of the acre or the quarter section, it would quickly show a tremendous improvement in the quality of fruit grown. When one considers the tremendous amount of money spent for cultivation, fertilizing, spraying, and general care of groves in Florida, and the relatively small percentage of first class fruit that is actually produced, it is appalling. We are attempting to carry on in a tremendous, wholesale way an industry that finds its highest quality of production, only in the perfection of the individual unit of production.

In fertilizing hammock groves, the owner has in a general way the same problem as that of the grove owner anywhere. It is largely a matter of judgment and ability to correctly

analyze the needs of the tree. In the very beginning the hammock grove gets some fertilizer. It may be only a handful two or three times a year, according to the appearance of the tree. Usually the formula is very low in ammonia and high in potash. This is desirable for the best character of growth on the young tree. Care is taken to avoid forcing the tree too much. It is an easy matter to do this on these rich hammock lands. At the age of six years these trees receive only about 8 to 10 pounds of fertilizer a year, while at the age of from 12 to 20 years they get 20 to 30 pounds a year. At this point the grove may begin to show some distress from exhaustion of the native richness of the soil, and from this time on the hammock grove owner is facing problems of replenishing his organic material, similar to those confronting the grove owner on higher lands.

I have known some hammock groves to receive not more than 3 per cent ammonia and not less than 8 per cent potash at any time of the year, and usually the summer application would be 2 per cent ammonia and 10 to 12 per cent potash. In the past some hammock grove owners have resorted to the use of all-chemical fertilizers. It has been my observation that where this practice was followed over a period of years, in spite of the tremendous amount of humus in these soils, the trees began to harden. The leaves become smaller, and thinner. The growth is shorter and less vigorous, and the fruit begins to drop in size. I recall one owner of a very fine hammock grove who had become so firmly convinced that any form of organic material in his fertilizer would give his trees die-back, that he used for years a chemical formula running 3-8-10 for the spring application and a chemical formula running 2-8-10 for the summer application. (Many grove owners practice the use of only two general applications per year.) The last time I talked with this man he had decided to change his brand of fertilizer. "The company I have been dealing with for years," he said, "used to get me good results but late-

ly they have been falling down," and all this time they had to make his fertilizer from just four materials, sulphate of ammonia, superphosphate, and high grade of sulphate of potash, with a little nitrate of soda in the spring application.

It is true, as he argued, that his land had been producing good cover crops, but even these were getting thinner every year. If this man could only have sat down in the woods, in an uncleaned hammock for a half day, and pondered on how nature had made that hammock so rich, and then gone back to his grove and done what he could to imitate nature, he could have saved himself a lot of worry. What the hammock grove needed was more organic materials. What that grove needed was a few applications of fertilizer running from 40 to 60 per cent of organic materials, to build up active bacteria in the soil. I have never yet seen or created any injury to groves on heavy hammock soils by the use of a reasonable amount of organic materials in the fertilizer, and particularly on those old hammock groves. The drain on these soils from years of crop production is tremendous and even these originally rich soils can not stand the strain indefinitely. It has been my observation that with all the humus that is returned to these soils annually from the naturally heavy vegetative growth, that the supply of organic material is steadily depleted by the removal of crops and tree growth over a period of years. It has been my observation that the bacterial activity is reduced even on these rich soils to such a state that the addition of some form of quickly available organic material in addition to cover crops, that will stimulate bacterial activity is desirable. I know of no better way of doing this than by the use of a perfectly balanced fertilizer containing organic materials in accordance with the needs of the soil.

I look with a great deal of apprehension upon a system of fertilizing that calls for nothing but mineral fertilizers. I have searched diligently, and have observed carefully, and

(Continued on page 33.)

Utilization of Citrus Fruit

By Flavin Gleason at Meeting of Florida State Horticultural Society

The use of citrus fruit as an indispensable article of food has increased of late years by leaps and bounds. The common practice of giving even infants orange juice is a radical change from Robert Louis Stevenson's time—when

"Every day, if I've been good

I have an orange after food."

The modern youngster in all well regulated families begins his day with orange or grapefruit—irrespective of good or bad behavior.

A few of the more important health-giving properties of citrus fruits to which medical authorities call our attention are:

First—There is no more refreshing cooling drink for human beings, sick or well, than orange, grapefruit, or lemon juice.

Second—Oranges and grapefruit contain a fair proportion of vitamins in a form very beneficial to young and old. It is slightly laxative and its flavor is relished by all. The juices should be used extensively in every family by every member.

Third—Citric Acid and Citrates are oxidized in the blood and tissues into the carbonates which help greatly in maintaining the normal alkaline reserve of the blood, and are therefore of great benefit in regulating the body systems.

Fourth—We are told that as a germicide lemon juice stands very high. An eminent physician states that he uses it largely in all forms of sore throat, even with diphtheria with excellent results. It has been found that one-half of one ounce of Citric Acid is so poisonous to the cholera germ as to make impure water to which it is added perfectly safe to drink. It is for that reason that on camping trips, lime juice or lemon juice is used in the drinking water for safety.

Fifth—Their anti-scorbutic property is well known. Limes and lemons have been used for centuries to prevent scurvy. Vitamin C which prevents scurvy, also appears necessary for normal growth and for the prevention of tooth decay. It is particularly abundant in citrus fruits. The body is limited in capacity to store Vitamin C, so that the diet for all ages, but especially in childhood, should contain it in abundance. Three essential food elements must be included in the diet to insure nor-

mal teeth. These are the necessary minerals, Vitamin C and Vitamin D. If any one of the three is lacking there can be but one result and that it unsound teeth that quickly decay. It is not natural for teeth to decay.

Tests on human beings have shown that it requires as much as a pint of orange juice a day to provide a sufficient amount of Vitamin C. We should use at least one pound of fresh raw fruit or vegetables, or those especially canned, every day to provide vitamin C.

We are told that: — "Diet can practically prevent decay and if diet is a factor in dental disorders, vitamin C is probably the most important constituent. The amount of vitamin required appears to be very much greater than we have heretofore suspected." Cases are on record of people suffering from pyorrhea. It was found that the diet had been very deficient in vitamin C. Patients placed on a diet containing an abundance of this vitamin as well as of calcium and phosphorus, showed steady improvement and cure.

We should eat oranges daily for vitamin C and calcium, if for no other purpose.

Sixth—Being pleasant to the palate, beneficial to health and within the limits of every purse, every one should eat more oranges and grapefruit. It is an ill wind that blows no good. The large citrus crop this year and the low prices have made it possible for many people to enjoy more of our delicious fruits this year than ever before, I believe. I know that this is true at our own Florida State College for Women, where 1600 girls have their meals throughout the school year. Since November, the dietitians there have served 850 field boxes of grapefruit and 508 field boxes of oranges. They have 100 boxes of grapefruit in storage at this time. In addition to the fresh fruit they have used 150 cases of canned grapefruit — No. 5 cans — and 75 cases of canned grapefruit juice in No. 5 cans.

Our citrus fruits are seasonal and only available for limited periods. It is in this connection that canning plays an important part in meeting dietary needs as well as saving the surplus. "Canning is the art of preserving seasonal products, and others susceptible to rapid spoilage, as far

as possible in their natural state with all their nutrient qualities intact, and in a form which renders such products more or less stable and capable of being distributed at all times to all places. In so far as the art approaches perfection it becomes an ideal way to supply such products out of season."

Raw fruits and vegetables have been found to lose in vitamin content on storage. Canned foods have three distinct advantages from the standpoint of their vitamins:

1—They are always canned promptly after harvesting. The home demonstration agent's slogan is one hour from field or garden to can.

2—Oxidation, which destroys the vitamins, is not permitted to take place in commercial canning or best methods of home canning, as it does in open kettle cooking.

3—After canning, the vitamins in canned foods are apparently stable and may be stored for long periods with insignificant or no loss.

It is only within the last few years that grapefruit canning has come into prominence. In addition to commercial canners, home demonstration agents with women and girls under their direction, have canned thousands of cans of grapefruit this year that their families may enjoy a varied diet all the year.

Other surplus citrus fruits have been converted into preserves, jellies, jams and marmalades for the same reason and to aid in conserving the surplus. Standardization and marketing of some of these products have been the means of increasing the family income.

We are all extremely interested in the frozen orange juice adventure. With eminent authorities all over the country proclaiming the virtues of a product that is naturally delicious and reasonably easy to obtain for several months of the year, it would seem that frozen orange juice producers have a market already created for their products.

However, we are faced with the fact that the public has been given highly colored and highly flavored stuff instead of orange juice for a long time. No doubt it will take a lot of educational work to bring a large per cent of the people to the point of demanding pure orange

(Continued on page 38.)

The Florida Citrus Exchange Votes to Withdraw From The Clearing House

Major interest in Florida citrus circles during the past month has centered around the action of the Florida Citrus Exchange in voting to withdraw from the Florida Citrus Growers Clearing House Association at the close of the present shipping season.

Rumors which had persisted for some time that the Exchange contemplated withdrawal from the Clearing House took definite form on May 8 when the Exchange board passed a resolution calling upon the Clearing House for radical changes in the operation of the latter organization.

EXCHANGE RESOLUTION

The following is the resolution passed by the Board of Directors of the Florida Citrus Exchange May 1.

WHEREAS, the shipper member contract between the Florida Citrus Exchange and the Florida Citrus Growers Clearing House Association provides for withdrawal only by giving notice of such withdrawal during the month of June of each year, and since that period is not far distant it becomes necessary for the Florida Citrus Exchange to give consideration to its continued membership in the Clearing House, and

WHEREAS, the membership of the Florida Citrus Exchange recognizes that much has been accomplished by the Clearing House that has been beneficial to the citrus industry as a whole and recognizes the sincere efforts of the Board of Directors of the Clearing House and the Committee of 50 to bring about better conditions in the citrus industry, and

WHEREAS, the marketing activities of the Clearing House Association which have been controlled largely by the Operating Committee have failed to accomplish the pur-

(Continued on page 13.)

Changes suggested included suspension of the activities of the operating committee, elimination of Clearing House advertising, elimination of inspection and reduction of box retain to one-half cent.

Replying to the resolution, the Clearing House directors stated that compliance with the suggestions of the Exchange would involve an entirely new set-up for the Clearing House, the amendment of its charter, and that the changes suggested would so cripple the Clearing House as to make its operations ineffective and useless.

Following receipt of the Clearing House reply, the Exchange directors on May 15 voted to withdraw from the Clearing House at the close of the present shipping season.

Later efforts on the part of the Committee of Fifty and others has led to an agreement on the part of the Exchange to meet in conference with directors of the Clearing House and members of the Committee of Fifty in an effort to reconcile the differences now existing. The outcome of such a conference will be

CLEARING HOUSE REPLY

The following is the resolution passed by the Board of Directors of the Clearing House in reply to the proposal of the Exchange.

WHEREAS, this Board has this day been presented with a resolution from the Board of Directors of its largest shipper member, the Florida Citrus Exchange, outlining conditions under which it would be willing to continue its membership in the Florida Citrus Growers Clearing House Association and,

WHEREAS, these conditions are so revolutionary that if accepted they would eliminate from the purposes and activities of the Clearing House

(Continued on page 13.)

awaited with interest by all concerned in the welfare of the industry in Florida.

Knowing the great interest taken by all citrus growers in the proposed action of the Exchange, The Citrus Industry asked an expression of views from citrus leaders, including officers and directors of the Exchange, officers and directors of the Clearing House and officers of the Committee of 50, for publication in the columns of this publication. The responses to this request are printed herewith, together with the Exchange resolution and the Clearing House reply.

J. C. CHASE STATEMENT

Retiring President and Present Director of the Florida Citrus Exchange Gives Opinion Regarding the Services Rendered the Florida Citrus Industry by the Florida Citrus Growers' Clearing House Association.

FIRST: The writer is convinced that no organization in the state can render as efficient service without being a member of the Clearing House as it could if it were a member and receiving the benefits of the Clearing House.

SECOND: That no organization in the state, whether it is a member of the Clearing House or not, can render as efficient service if the Clearing House is not functioning as it could if the Clearing House is operating. In other words, the Clearing House is a benefit to the industry, and to all shippers, whether it is supported by those shippers or not.

THIRD: The writer feels that the larger volume there is in the Clearing House the greater benefit it will be to the entire industry, and will directly contribute to the efficiency of the service rendered by its members.

FOURTH: It would be impossible for any other organization having a different set-up from the Florida Citrus Growers' Clearing House Association to perform the service to its

(Continued on page 14.)

Additional Statements appear on Page 24

The Citrus Industry

with which is merged The Citrus Leaf

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THE CLEARING HOUSE ASSOCIATION

The Citrus Industry as a publication has no interest or concern whatever in the controversy now being carried on between certain interests in the industry of the state. Any member of the Clearing House Association has, we assume, the right to terminate such membership in the manner and at the time provided by the contract. No one may of right censure such action. That is a matter between the Clearing House and the individual member.

The Citrus Industry as a publication has, however, a vital interest in the perpetuation of the Florida Citrus Growers Clearing House Association as an active factor in the citrus industry of the state.

Whatever mistakes may have been made by the Association, however it may have fallen short of the original hopes and aspirations of its founders, the fact remains that the Florida Citrus Growers Clearing House Association has performed and is performing services for the industry which could not and cannot be performed by any other agency. No individual or set of individuals, no organization or combination of organizations operating outside the Clearing House can function for the industry as a whole with the same degree of efficiency as does the Clearing House.

Setting aside entirely the record of performance accomplished by the Clearing House during the past three years, and looking only to the future, it seems to us that the perpetuation of the Clearing House should be the first concern of the citrus growers and shippers of Florida.

Organized as it was under the supervision and with the aid of the federal department of agriculture, with a set-up passed upon and approved by the department, the Clearing House holds the unique distinction of being one of the very first organizations of its kind set up under such federal supervision and approved as to purpose and working plans by the department

of agriculture.

Here we have a working organization operating under government sanction and with full government approval ready at any moment to meet any peculiar contingency which may arise and to handle it for the best interests of the entire industry. Numerous such contingencies have arisen during the past three years, and each has been met and ably controlled by the Clearing House. If we are to judge the future by the past, other such contingencies may be expected to arise at any time and without notice. When they do arise, we shall need a strong and effective organization ready and alert to meet them.

For this reason alone, even if we disregard entirely the accomplishments of the Clearing House in the past, it seems to us that it should be the first aim of every Florida citrus grower and shipper to maintain at whatever cost the organization already perfected to meet whatever peculiar contingency may arise. Rather than consider any curtailment of the activities of the Clearing House, rather than handicap the organization in any manner, it seems to us that it would be the part of wisdom to strengthen the Association and build it up to the point where it may function even more effectively for the welfare of the entire citrus industry of the state.

The Citrus Industry sincerely hopes that the Clearing House may not only survive, but that it may continue to grow in usefulness and efficiency.

THE GREEN FRUIT BILL

A new "Green Fruit Bill" has been passed by both houses of the state legislature and at this writing is before the Governor for his approval.

The proposed law is a compromise between the rather stringent provisions of the House bill fostered by Commissioner of Agriculture Mayo and the more conservative Senate bill sponsored by Senator Parrish, one of the most extensive growers on the East Coast.

The new law provides that inspection of orange and grapefruit shipments shall cease on December first, and of tangerine shipments on November 15.

Ratios of solids to acids are established as follows: Oranges, 8 to 1; tangerines, 7 to 1; grapefruit, graduated from 5.95 to 1 as a minimum, with rising ratio dependent upon juice content.

Just what effect the new law, if signed by the Governor, will have upon the shipment of unripe fruit, is not yet clear. Most shippers and many growers seem to feel that the new bill provides standards which will be an improvement upon the old law, but Commissioner Mayo is said to look upon the bill as entirely unsatisfactory, from the standpoint of preventing the shipment of immature fruit.

With such a wide difference between the House bill and the Senate bill, a compromise of some sort seemed inevitable, and the present bill was the result.

EXCHANGE RESOLUTION

(Continued from page 11.)

poses for which the Clearing House was primarily organized, as evidenced by the reports of our district and division managers, who unanimously report that the efforts of the Clearing House prorating committees in the terminal markets have been impotent and of no avail; and as further indicated by the numerous resolutions from associations and sub-exchanges who complain of inequitable shipments by shipper members, and

WHEREAS, there has been an increasing dissatisfaction among the grower members of the Exchange with the operations of the Clearing House, which has been indicated to the Exchange through resolutions from associations evidencing a belief in the impossibility of reconciling the opposing views and interests of cooperative associations and independent shippers, and

WHEREAS, although the value to the industry of those activities of the Clearing House which have resulted from the mutuality of interest between all members of the Clearing House is fully realized and appreciated, and we recognize the desirability of maintaining some organization that will continue to carry on those activities in which there is mutual agreement. Yet it is uncertain if it is possible to carry on under the present charter and by-laws of the Clearing House these same activities, or similar ones, where the interests of all are mutual, without at the same time carrying on the activities of the Clearing House specifically provided for in the charter and by-laws as well as in the shipper and grower contracts, which have not been satisfactory to the Exchange membership, now, therefore,

BE IT RESOLVED, that this committee believes that if such activities as can be mutually agreed upon by all shipper members as of common interest, such as formation of legislative policies, joint action in matters affecting the industry as in the Brogden patent suit and the Med Fruit Fly fight, and support of the Growers and Shippers League, can be continued under the present charter and by-laws of the Clearing House Association with such retain as is needed for same (not in excess of 1¢ per box), and with the elimination of advertising, inspection, allotments of shipments and other marketing activities not mutually agreed upon, then the Florida Citrus Exchange should continue its member-

ship in the Clearing House, and recommends to the Board of Directors of the Florida Citrus Exchange that the Board name as a condition of the continued membership of the Florida Citrus Exchange in the Florida Citrus Growers Clearing House Association such changes in the present charter and by-laws of the Clearing House and in its present membership contracts as to confine its activities in the future to those things that may be mutually agreed to be of general good to the whole industry and that except by unanimous consent of shipper members, activities having to do with marketing, distribution, inspection and advertising be discontinued.

The Committee further recommends that unless satisfactory assurance that such changes will be acceptable to all shipper members can be had at once, that the proper officers of the Exchange be authorized to file notice of withdrawal of the Florida Citrus Exchange from the Florida Citrus Growers Clearing House Association and cancellation of its shipper member contract and that grower members of associations and special shippers be requested to file notice of withdrawal and cancellation of their grower contracts during the month of June.

It was further recommended that in such event the Exchange shall express to the Clearing House a further desire and willingness to work out with the Board of the Clearing House and its shipper members such plans as may be mutually satisfactory and as are necessary to accomplish the purposes above set forth, (either under an amended charter and by-laws or in an entirely new organization as may seem best to all concerned.)

The committee reiterates its belief in the good accomplished by some of the activities of the Clearing House, but is unable to reconcile the differences between the cooperative group and the so-called independent group of shippers that have developed in the operating committee. It firmly believes that such work as has been carried on with mutual satisfaction and to mutual advantage should be continued and that such matters as have caused friction and that could not be adjusted in conference should be removed rather than jeopardize the potential influence of the organization for good to the industry.

CLEARING HOUSE REPLY

(Continued from page 11.)

all three of the fundamentals for which the Clearing House was created, namely standardization of grade and pack, advertising and better distribution of the Florida citrus crop, and,

WHEREAS, to put in effect such revolutionary changes would involve the amendment of the Charter of the Clearing House by its grower members so as to in effect make it an entirely different organization with entirely different purposes, and so as to necessitate the cancellation of all shipper member and grower member contracts of the Clearing House and Clearing House set-up, including Charter, By-laws and contracts, and

WHEREAS, this Board feels that it would be false to the trust which has been committed to it by the seven thousand grower and shipper members of the Clearing House, as well as by the six thousand additional contributing grower members, for it to approve of such a radical procedure, and

WHEREAS, this Board is firmly convinced that the activities of the Clearing House have accomplished much for the citrus industry of the State of Florida and have actively served the industry in connection with all three of the fundamental objectives hereinabove referred to, and

WHEREAS, this Board is unwilling to subscribe to the assertions contained in the resolution of the Board of Directors of the Florida Citrus Exchange to the effect that it is impossible to reconcile the opposing views and interests of cooperative associations and independent shippers, and

WHEREAS, this Board is convinced that the operations of the Clearing House have clearly shown that it is possible and indeed necessary to the welfare of the citrus industry of Florida that the opposing views and interests found within the citrus industry be continuously brought together for the purpose of reconciling apparent differences and of negotiating agreements of mutual benefit, and

WHEREAS, this Board is of the opinion that the resolution of the Board of Directors of the Florida Citrus Exchange wholly fails to consider the interests and the welfare of the citrus industry as a whole

(Continued on page 25.)

Additional Statements Appear on Page 24.

STATEMENT OF VIEWS

BY JOSHUA C. CHASE

(Continued from page 11.)

grower-members, shipper-members, and to the industry, that the Clearing House does. It is a cooperative set-up, recognized and approved by the federal Government. The set-up is such that all shipper-members can, and we believe do, report all of their sales both as to distribution and price realized, without fear of having this confidential information misused. With such information coming in to the Clearing House daily it is able to formulate advice as to the general policy of shipping and distribution. This general information is furnished to all of the shipper-members, also to grower-members if they so desire. It is absolute folly to consider for a moment that the Florida Citrus Exchange, or any other marketing organization, could act as a substitute for the Clearing House and furnish the service and information it has, and is, furnishing.

It is quite evident that with the information as described above being disseminated amongst a majority of the shippers in the state, marketing conditions are more orderly amongst the shipper-members, which accordingly results in benefits to every shipper in the state.

In addition to the above services the Clearing House out of the two cents per box assessment furnishes inspectors to shipper-members, who standardize grade and pack; the Clearing House contributes 50 cents per car to the Growers and Shippers League of Florida; any surplus funds are used to advertise the supremacy of Florida fruits over other competitive producing sections. The Clearing House is a medium for the handling of all problems affecting the Florida citrus industry. Florida citrus growers and shippers who claim they pay two cents and get nothing back—ARE ALL WET.

TAMPA MAN HONORED

W. L. Waring, of the Lyons Fertilizer Company has just been honored by his election as director of the National Fertilizer Association from district No. 11. Mr. Waring is well known both to the consuming and the manufacturing trade and his election will be a source of pleasure to his many friends.

Simplified Practice Recommendation on Paper-board Shipping Cases for Fruits and Vegetable Cans Approved by General Industry Conference

A general conference of representatives of manufacturers, distributors and users of paperboard shipping cases, held under the auspices of the division of simplified practice of the Bureau of Standards, Department of Commerce, in Washington, D. C., on May 29, 1931, and approved a simplified practice recommendation covering the dimensions and unit of pack for paper board shipping cases used in packing canned fruits and vegetables.

The recommendations establishes

a list of 41 different sizes of paper-board shipping cases used in packing the 27 simplified sizes of cans as approved by a general conference on January 30, 1931, and which is now before the industry for acceptance. It was further recommended that the maximum number of cans packed per case for the 27 simplified cans be not more than 48.

The appointment of a representative standing committee to periodically review the simplified practice recommendation was also authorized by the conference.

**"PRODUCING POWER"
and not "PRICE"
PREFERRED BY OUR
MONEY MAKING
CUSTOMERS**



MANUFACTURED from unadulterated high-grade materials, and formulated in accordance with the latest and best scientific information science can offer and which actual practice can contribute, Osceola and International Crop Producing Fertilizers are made for producing power in crop production and not for a "low price" appeal.

Since our customers always have been farmers who bought "crop producing power" instead of "price," there is no inducement to us to lower the high producing power of Osceola and International brands to meet price competition.

We built our business by giving our customers the most crop producing power for the money.

If you want the most crop producing power for your money, we will be pleased to show you value in our brands.



INTERNATIONAL AGRICULTURAL CORPORATION
MANUFACTURERS OF HIGH GRADE FERTILIZERS

208 St. James Bldg.

Jacksonville, Fla.

Satisfaction at Harvest Time

BLUE GOOSE NEWS

Monthly News of American Fruit Growers Inc.



Edited by The Growers Service Department

KEEPING FRUIT FRESH AND CRISP IS PROBLEM

"In no other line of distribution has a commodity been so successfully and thoroughly merchandised as have the apples of the Northwest," said W. H. Baggs, operating head of the American Fruit Growers and a member of the board of directors of the Northwestern Fruit Exchange, who was given a luncheon at the Cascadian Hotel, at Wenatchee, Wash., by Walter D. Shultz of the Commercial Bank & Trust company. Leading shippers and fruit men and business interests of the city were guests, as reported by the Wenatchee Daily World.

"In speaking of the distribution of the apples," continued Mr. Baggs, "nowhere has there been such remarkable co-ordinated effort as in your community. And when I speak of marketing fruit I do not confine my remarks entirely to fruit alone but I will include the marketing of perishable foods.

"It seems that there has been the proper organization. I have heard it said that one man could do a better job in marketing than 100. That certainly does not apply where more than 100 concerns are working harmoniously in broadening the markets of Northwest apples. The big problem in the marketing of the apple is to lay that apple in a crisp, prime state into the very hands of the consumer. That is one thing that has been accomplished through the sale of the apple by the unemployed in the cities of the United States.

"Of especial importance to the continued development of the apple industry is proper refrigeration of the Northwest apple. Those who are handling fresh meats and vegetables deliver these meats and vegetables direct from the cooled cases into the homes of the people where they are in prime condition for consumption.

"Increasing emphasis must be made toward preserving the apple in its

(Continued on page 2.)

IT IS NOW EVIDENT

"By this time it is evident that supply-and-demand conditions cannot be set aside by legislation, that the dumping of surpluses abroad is not feasible, that the indefinite storing of surpluses tends to prevent rather than to cause a rise of prices, that tariff duties are not effective on commodities produced largely for export and that subsidies would increase rather than restrain production." — Arthur M. Hyde, Secretary of Agriculture.

NEW SMYRNA PACKING CO. HOLDS ANNUAL MEETING

Annual meeting of the New Smyrna Packing Co. at New Smyrna, affiliated with the American Fruit Growers Inc. was held on May 15. Review of the business year revealed very satisfactory conditions; and prospects for next season's service to the growers of that section were given as excellent.

In the annual election Rolland E. Stevens was reelected president, as were C. N. Williams, first vice-president; E. E. Neal, second vice-president; A. B. Michael, third vice-president; R. B. Woolfolk, secretary and treasurer; G. D. Wing, assistant secretary and assistant treasurer.

N. H. Harper continues in active capacity as manager of the packing house, in which he has made a most successful record and earned the good will and confidence of the growers of the vicinity.

MANY ANGLES INVOLVED IN THE CLEARING HOUSE

Brief statement of the views and consideration of the American Fruit Growers Inc. concerning the Florida Citrus Growers Clearing House Association as comprehended in his own close-up contact with the situation recently was made by R. B. Woolfolk, vice-president of the American Fruit Growers Inc. to the Clearing House News, as follows:

"The Florida Citrus Growers Clearing House Association has, in my opinion, been a most important factor for good in the citrus industry. Doubtless it has not been perfect, but institutions of this nature do not spring into existence with complete perfection, and are perfected through considerable periods of experience and effort in reconciling differences in views and interests that may be involved.

"Regardless of shortcomings that may have been manifested, the Clearing House has undoubtedly been a powerful force in coordinating along many desirable lines the efforts of a very large proportion of the industry in Florida and making possible the accomplishment of many things for the general good that probably could not have been effectively accomplished through other means.

"While one may regret, he should nevertheless not needlessly criticize the action of any member or factor in withdrawing from the Clearing House. The right of withdrawal is clearly recognized in the fundamental law of the organization. On the other hand, one should remember that the withdrawal of any factor does not destroy the opportunities for continued development and successful and beneficial operation of the organization, although for the time being some modifications in program might be necessitated.

"Harsh criticism, hasty conclusions and precipitate actions of any kind

(Continued on page 2.)

BLUE GOOSE NEWS

OFFICIAL publication of the American Fruit Growers Inc., Growers Service Department, published the first of each month in the interest of the citrus growers of the state of Florida.

EDITORIAL ROOMS
Sixth Floor, State Bank Bldg.
ORLANDO, FLORIDA



STANDARDIZATION

"Photograph made by Standardization Department of the American Fruit Growers Inc."

These words upon the back of a set of photographs mean that this relatively new, and most effective, department of the American Fruit Growers Inc. is on the job; and that the particular phase of shipping or distribution represented by the photographs in question is due for searching and careful scrutiny from men especially trained and qualified for the purpose, who before they are through will make recommendations for an "AFG standard" as affecting that particular operation, or, if such a standard previously has been adopted, will be upon the track of violations anywhere within the AFG ranks.

Of course, making photographs is only part of the job of the Standardization Department; but it is expert in producing wonderfully clear and accurate photographs, for it believes that pictures are something all can understand; and clear, distinct comparative photographs constitute evidence difficult to controvert.

The ingenuity shown by the Standardization Department in expressing through photography variations in packing or other practices is quite considerable. It is just as remarkable as is the clearness and accuracy of the photography.

Written reports accompany photographs, and cover minutely whatever

Adv.

variations may be under discussion; but the photographs are something almost instantly read and visualized by executives and employees alike.

The Standardization Department is not a spy system. It works right out in the open, and generally obtains the fullest cooperation of all connected with the organization. However, it may at times prove extremely disconcerting, say to a packing house manager, when suddenly and unexpectedly it presents its evidence obtained by measuring and photographing portions of some shipment as it arrived in some market a thousand or more miles away, or as it was opened there for distribution.

The Standardization Department enables the working out of set standards to govern widely separated shipping or receiving points; and then makes possible the general enforcement of such standards through its observations of operations.

Reporting directly to William H. Baggs, general manager, at Pittsburgh, this department may well be termed "eyes of the boss," for its timely photography places directly before him a valuable visualization of how things are going in far places.

The Standardization Department is just one more expression of the ideal of service of the American Fruit Growers Inc., a practical method of constantly scrutinizing a far flung force in a manner which allows of making a good organization a better and more effective one.

KEEPING FRUIT FRESH AND CRISP IS PROBLEM (Continued from page 1.)

prime by means of these modern devices. Where the fruits are placed on display in fruit stands and stores in the case of the apple, a large percentage is allowed to deteriorate. More attention should be given to induce the retail distributors to handle this fruit in the proper manner."

MANY ANGLES INVOLVED IN THE CLEARING HOUSE (Continued from page 1.)

should be avoided. Generous and reasonable attitudes, deliberate and constructive thinking and calm and unprejudiced judgments should be the order of the day.

"There is always danger that attention may be so focused upon some particular phase, such for instance as

the matter of marketing, that too narrow a view may be taken of the functions and possibilities of an organization such as the Clearing House. Numerous matters, such as questions of transportation, relationships, legislation and other problems of extreme general importance to the industry, aside from mere marketing problems, constantly present themselves for solution, and all these possibilities should be kept in mind in considering the present situation and formulating plans for the future."

SON OF W. H. BAGGS IS KILLED IN AUTO CRASH

Sympathy of the produce trade in all sections of the country has been extended to Mr. William H. Baggs, vice-president and general manager of the American Fruit Growers Inc. for the death of his son William E. Baggs, which occurred in a grade crossing crash of the latter's automobile with a railroad engine at Portland Oregon, on May 23,

Will E. Baggs, who has been employed by the American Fruit Growers Inc. at Martinsburg, W. Va. since leaving Lafayette College, was 29 years old, married and the father of two children. It was his first visit to the Pacific Coast. Accompanied by his brother Andrew, who lives on the Coast, he was driving from Yakima via Portland to San Francisco, there to meet their father.

The body was returned to Pittsburgh; and funeral services were held from the residence of Mr. William H. Baggs there.

A salesman's effectiveness is measured by the standing of himself and the concern he represents in the market in which he operates, plus his product's accumulated reputation for quality.

When you think of Blue Goose you think of quality, and so do others.

The Orange is a Noble Fruit

By Walt Mason

"The orange is a noble fruit, a wondrous virtue in it lies; when it is near, I care no hoot if I lack turkeys, roasts and pies. The orange grows upon a tree and is not fashioned in a mill; it grows outdoors and it is free from punk preservatives that kill. Developed in the sunny air, the mellow zephyrs make it sweet, and no adulterants are there to warp men's vitals as they eat. All its ingredients are fine and it is wholesome through and through; no poison dyes of aniline have given it its golden hue. Long since when I had grievous pain athwart my midriff and my spine a wise physician said, 'In vain will you take pills and drugs of mine; fruit acids are the stuff you need to make your work as good as new; eat oranges—this is my rule— eat oranges the whole day through.' And so I eat them when I rise, I eat them ere I go to bed; I eat this fruit instead of pies, instead of codfish balls and bread. I have cut out the baker bakes, and now I'm full of rich red blood and fit to whip my weight in snakes. I'm bearded like old Santa Claus and once my whiskers wouldn't grow; new teeth are growing in my jaws and like a rooster oft I crow. We eat too much of patent things, of victuals cooked upon a stove; and still the golden orange swings out yonder in the sunlit grove."

BLUE GOOSE TEAM WINS AT CALIFORNIA TENNIS

The Blue Goose tennis team, composed of Fred T. Fogg and Ellison R. Canterbury, of the American Fruit Growers, Inc., which some time ago issued an open challenge to any team representing bona fide citrus growers or shipping organizations was victorious in its first encounter with a team composed of Sunkist men defeating Clarence Dunbar and Bob Lippcot, of East Whittier, at Riverside, Sunday, May 4. The Blue Goose men lost the first set 7-9, but came back to win the next three by scores of 6-3, 6-1, 6-3. Dunbar and Lippcot were the winners in an elimination contest held by Sunkist players and the match with the Blue Goose team was in the nature of a play-off between the various shipping organizations.—California Citrograph.

CITRUS EXPORTS HEAVY IN MONTH OF FEBRUARY

Exports of citrus fruits from the United States during the month of February, 1931, according to a de-

partment of commerce report, amounted to 440,810 boxes, valued at \$1,-248,848. By varieties, the exports were: Oranges, 330,850 boxes; lemons, 20,181 boxes, and grapefruit 89,779 boxes. The bulk of the shipments were to Canada, although 39,-286 boxes of grapefruit and 41,148 boxes of oranges were sent to the United Kingdom.

U. S. A. BIGGEST ORANGE PRODUCING COUNTRY

The United States is the world's largest producer of oranges. During the five-year period, 1925-26 to 1929-30, the production in the United States averaged 38,500,000 boxes and in Spain 36,700,000 boxes. In Japan and Italy the production was about 10,000,000 boxes and 8,560,000 boxes, respectively; Production in Brazil in 1928-29 is placed at around 5,000,000 cases by the minister of agriculture. Palestine, Australia and Algeria each produce about 2,000,000 boxes annually and South Africa is rapidly approaching this figure. The countries named produce the bulk of the world's orange crop.

Spain is by far the largest exporter of oranges, exporting on an average in the last two seasons about 70% of the entire crop, of 28,800,000 boxes. This is almost three times the quantity exported from all other countries. Other large exporters are Italy, with about 3,600,000 boxes a year; United States, 3,300,000 boxes; Palestine, 2,100,000 boxes; South Africa 1,200,000 boxes, and Brazil with 500,000 boxes. Japan exports oranges to nearby eastern countries and in November and December sends some oranges to the United States and Canada for the holiday trade. Some oranges are also exported from Central America and Cook Islands. Oranges are also grown in New Zealand, India, China and a number of other countries, mostly for local consumption.

WINTER HAVEN OFFICE

The district office of the American Fruit Growers Inc. at Winter Haven is now located at 15 Postal Building, a convenient ground floor location at the northeast end of the postoffice.

Adv.

THE TIE-IN

Between Quality Production and the Market High-Dollar

Quality is the foundation of successful effort in advertising and selling . . . real quality takes away the humdrum of mere routine . . . creates vital interest in the product.

Quality rightly brings pride to the grower . . . stimulates to greater effort with corresponding better results.

The producer of a superior article is privileged to obtain a premium for it . . . provided that quality is properly capitalized and properly presented . . . provided the quality-idea dominates all the necessary steps between producer and consumer.

American Fruit Growers Inc.

Florida Division
Orlando, Florida



HEAVY INCREASE IN OUTPUT OF CANNED CITRUS

The department of Commerce in a recent statement announces heavy increases in the output of canned citrus fruits and in the export trade in canned fruits and juices.

The report shows the comparative production of canned grapefruit hearts and juice and canned orange juice for the seasons of 1929-30 and 1930-31 and exports for the current season. Gains were shown in the production of each variety this season.

A table of production, converted into cases of two dozen No. 2 cans each, follows:

	1929-30	1930-31
Grapefruit hearts	1,316,738	2,712,489
Grapefruit juice	173,934	412,066
Orange juice	37,552	61,110

Of the total production this season, 110,965 cases of canned citrus were exported, the report says. No figures are given for exports last season.

Exports Listed

The United Kingdom was Florida's biggest customer, getting 93,678 cases. Other countries receiving canned citrus were Canada, 16,097 cases; Holland, 760; France, 160; Belgium, 100; Germany, 75; Sweden, 20; China 50, and New Zealand, 25.

The report says 2,892,705 standard field boxes of grapefruit were used this season for canning as compared with 1,639,923 last season. The canning industry used 61,351 boxes of oranges this season and 36,514 last season.

The information in the report was collected from individual canners by the Florida office of the department of commerce at the request of the Florida Grapefruit Canners association. The figures were compiled from reports from 29 individual concerns, representing 38 canning establishments. Eight plants were reported not in operation during this season, and one concern sent no report.

FLORIDA TREES

Bambusa thourarsi and other species (Bamboo)

North

Laurocerasus caroliniana (Cherry Laurel)

Bambusa argentic and other hardy species (Bamboo)

Cinnamomum camphora (Camphor)

"THE MOST DURABLE AND SATISFACTORY FIELD CRATE I HAVE EVER USED"

Says George R. Williams, Manager
Winter Haven Citrus Growers Assn.

Winter Haven, Fla., May 21, 1931.

Winter Haven Planing Mills,
Winter Haven, Florida.
Gentlemen:

It is with the greatest pleasure that I write you that the Cypress Field Crates with the Stay-Put heads which we have been using during the past several months have been eminently satisfactory in every way.

As you know, before we purchased these two thousand boxes, we put the samples submitted to us to the most severe tests, but the use of this style box in quantities has convinced me that it is the most durable and satisfactory field crate I have yet made use of.

And it is with the idea of placing credit where it is due that I am writing.

With best wishes for your continued success, I am

Very truly yours,

GEORGE R. WILLIAMS,

Manager Winter Haven Citrus Growers Association.

Mr. Williams Knows Field Crates—His Experience Should Be
Worth Money To You. All We Ask Is That You Investigate

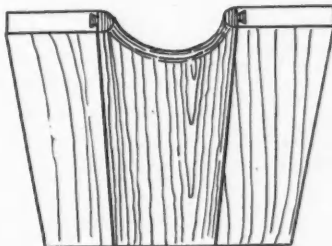


Illustration showing the new
STAY-PUT Interlocking Cypress
Field Crate Head.

For fifteen years we have been building Cypress Field Crates for the trade of Florida. From time to time we have made improvements which have resulted in greater strength and longer life for our crates, but the new STAY-PUT head which is illustrated here is without qualification the greatest innovation we have ever placed on the market. We also manufacture solid one piece heads, and are equipped to print your name on the heads.

We recommend to any buyer that he buy the best he can get for the money—and we state definitely that in our STAY-PUT head Cypress Field Crate we offer a greater value for less money than can be secured elsewhere.



Write, wire or phone
us at our expense and
a representative will
call on you.

Debunking Another Myth About

April 25, 1931.

Presidents and Directors of the
Florida Citrus Exchange,
Sub-Exchanges and Associations,
Gentlemen:

Here are facts about recent progress and development in your organization. They are given to you gentlemen so that you will have definite data on the general picture with which to meet the wave of argument and criticism which is being leveled against the organization as usual during the grower withdrawal period. We believe that this information will be of value to you in talking to growers, both in and out of your organization.

The Florida Citrus Exchange has made marked progress in its organization development within the state. We have a far larger, stronger and more closely knit organization than ever before.

You are familiar with the increase in the percentage of the total crop which has been brought under the control of cooperation. It has been increased from 30% to approximately 45% during the past two or three seasons. And this increase has not been obtained entirely through mergers of independent grower-shipper organizations, but has been obtained largely through successful organization contact with individual growers.

Increase of Grower Membership

Consider the records for the past season to March 1st. The organization added 1123 new member-growers (not including grower-shippers) owning 23,357 acres of grove properties. During the same period only 267 growers, owning 5643 acres, left the organization for one reason or another. This leaves us a net increase during the period of 856 growers, owning 17,714 acres.

It is also important to look at the distribution of volume per association. It has long been a policy of this organization to eliminate weak associations or associations which had practically no chance of obtaining adequate volume for economical operations, or to build such associations through strong management into units which could operate satisfactorily in the interests of their grower-members.

Average Volume Per Association Doubled

In 1924-25 the organization operated 110 packing houses and packed 6,374,820 boxes of fruit. The average per house in this large crop year was 57,953 boxes. Pursuing this policy steadfastly through the intervening seasons to date, we come to this present season with 100 houses, which will pack an estimated total of 10,382,090 boxes, or an average of 103,821 per house. In other words, the average per house has been nearly doubled since the 1924-25 season. This volume increase per house is highly desirable in that it has brought about much more economical operations and permits a far more satisfactory handling of the fruit in the house.

Much of this development within the associations may be traced to a perfection of personnel in the associations and sub-exchanges. The detail of the changes which have been made from time to time during the past few seasons is too great to cite here, but you will readily recognize that no association is stronger than its manager. Weak managers in practically all instances have been replaced. The same is true of sub-exchanges. We have a field group at present which is efficient, thoroughly acquainted with the problems and work for which they are employed and competent to carry through, as is evidenced

by the progress which has been made.

This growth of Exchange volume will be considerably augmented during the coming summer and fall by a continuation of action on the merger program already adopted by the Florida Citrus Exchange. The Exchange is now in close conference with 17 of the largest independent shipping interests in the state. The completion of even a few of these mergers will produce a marked increase in percentage of cooperative control.

Reduction of Retains

There has been a decided increase in efficiency in the handling of fruit within the organization. The Tampa office retains on fruit have been reduced steadily from 18c in the 1924-25 season to 15c the present season, and the proposed 13c for next season. This alone is positive proof of increased handling efficiency.

Yet there is additional evidence which provides further background for this claim of efficiency. The California Fruit Growers Exchange during the past fiscal year employed 481 persons and moved 46,377 cars of fruit. This is an average movement of 96.5 cars of fruit per employee. Our own organization during the past and comparable season is employing 175 persons and will move an estimated volume for the season of 28,057 cars. This is an average per employee of 160.3 cars—63.8 cars per employee more than the California organization. Further, the Florida Citrus Exchange paid its employees an average of \$19.00 per person less annually than the California organization.

Thus, in comparison of the efficiency and economies of operation of our own organization with that of the nearest comparable cooperative, it shows that Exchange operations are handled on a most satisfactory basis from the standpoint of the grower.

The Exchange participation in the development of the by-products industries has been of marked advantage to its growers. The benefit from these industries will increase as the details attendant upon these products are worked out and volume in their movement is obtained.

Development of Frozen Orange Juice
The Florida Citrus Exchange undoubtedly is responsible for the development of the frozen orange juice deal and in interesting responsible, well capitalized distributing firms in its manufacture and sale. Frozen orange juice would not be a commercial reality today had it not been for the investigational and research work put on this product by the Exchange over the past two years. The canned grapefruit contracts negotiated by the Florida Citrus Exchange at the beginning of this season for the sale of cannery grade fruit at 90c undoubtedly were a primary factor in holding the price on that grade of fruit as high as was maintained on the average through the season. This is an accomplishment made possible only by the strength of position in the industry given to the Florida Citrus Exchange by cooperative control.

Upon the demoralization of the canning industry, which in itself is proof of the fact that the independent canners are unable to manage the canning business, the Florida Citrus Exchange has seen the advantage of getting into the canned grapefruit deal, making possible the use of its cooperative control of the raw product to force a stabilization of the canned grapefruit industry in the interests of the producers. The plans for cooperative activity in the canning industry are rapidly progressing and have reached a point where it is safe to assume that this phase of the industry will be made a highly profitable one for the producers.

GO AHEAD, if you must, and believe that without an organized marketing system

That may be true in your case—you do have a prosperous industry. But such apathy is going to get you into aches and skimpy meals.

How long will you believe in fairy tales?

No will-o'-the-wisp plan will ever take a grower. It takes good, sound horse, sense, plenty of hard work, volume control in a **marketing** agency, and fundamental principles of merchandising to ever succeed.

And that's why you should support the plan.

It is a grower-controlled, non-profit organization. Its hard-working Board of Directors and employees have been made. Results have been obtained.

But it lacks the power of 75 percent of the other plans.

Every plan tried has developed into a beautiful disappointment and costly failure. Certainly no other plan is remaining—the only one never given a chance.

That plan is adequately supported cooperation.

It is the only plan which has proved successful everywhere. It is the plan backed by economical experience.

It can and must work in Florida.

Read the letter of General Manager C. C. Presidents reproduced in this advertisement. It shows the **plishment and progress in an organization** of the **Federal Farm Board** as the only type of organization that can save the Florida citrus industry.

Florida Citrus

Tampa, Florida

That all of these factors of organization development mark the Exchange as a stronger and more efficient unit is clearly evidenced by the fact that the Federal Farm Board has given the organization unqualified moral and financial support. This support of the Farm Board in turn is helping to build the organization strength.

Attracts Support of National Leader

Further, two months ago saw the first time in the existence of the Florida Citrus Exchange where the organization itself, because of its evident advantages to the growers, attracted a man of international importance to offer his services gratis in the further development of that organization. Col. Raymond Robins was neither asked nor paid to give his time for organization meetings, yet the progress made in the organization and the possibilities in the development of the Florida Citrus Exchange at-

tracted this effort, his participation in the Florida Citrus Exchange.

The progress made by the Florida Citrus Exchange in the past few years has been marked by the fact that the organization has been marked that the development might be classified solely as a revolution within the state. The plan of the sales department has been marked to radical change. The efforts have been made to make the organization a more efficient unit, making possible a new supervision and concentration of oranges and grapefruit. The organization has been divided into sales districts, permitting an absolute division of responsibility in the development of all possible markets for fruit.

A desk in the sales department has been detailed for the exclusive use of mixed car and special order.

General Manager.

Snively Heads The Florida Citrus Exchange

John A. Snively, prominent citrus grower and business man of Winter Haven, was elected president of the Florida Citrus Exchange at the Annual meeting of the Board of Directors held in Tampa on June 2. Mr. Snively succeeds Mr. J. C. Chase of Winter Park, who has headed the Exchange for the past year. The Board of Directors by a vote of 12 to 10 chose Mr. Snively over John S. Taylor of Largo, also a prominent citrus grower and probable candidate for governor in the next democratic primary.

In addition to Mr. Snively, the directors elected the following officers: E. L. Wirt, Babson Park, chairman of the board; J. S. Taylor, Largo, first vice president; J. G. Grossenbacher, Plymouth, second vice-president; R. J. Kepler, jr., DeLand, third vice president, and Rupert Smith, Arcadia, fourth vice president.

C. C. Commander, for the past several years general manager of the Exchange, was re-elected and the board of directors was authorized to enter into a three-year contract with him, thus eliminating the uncertainty contingent upon annual election of manager.

Only two changes were made in the board of directors, George Speece of Bartow and John Morley of Haines City being the new members chosen. The board as at present constituted is composed of the following twenty-six members:

J. C. Chase, Sanford; J. O. Carr, Fort Ogden; W. O. Talbott, Goulds; Rupert Smith, Arcadia; John A. Snively, Winter Haven; R. P. Burton, Leesburg; Marvin H. Walker, Tampa, Homer Needles, Fort Pierce; D. C. Gillett, Tampa; J. G. Grossenbacher, Plymouth; John Morley, Haines City; R. K. Thompson, Sarasota; Walter R. Lee, Ocala; C. A. Garrett, Kissimmee; John S. Taylor, Largo; George Speece, Bartow; J. D. Clark, Waverly; C. H. Walker, Bartow; A. W. Hurley, Winter Garden; R. J. Kepler, jr., DeLand; H. E. Cornell, Winter

Haven; F. S. Ruth, Lake Wales; D. A. Hunt, Lake Wales; E. L. Wirt, Babson Park; L. B. Skinner, Tampa; Clinton Bolick, Fort Myers.

The following department heads were reappointed: F. W. Davis, general sales manager; J. Reed Curry, organization department; John Moscrip, advertising manager; E. D. Dow, traffic manager; O. M. Felix, secretary; W. T. Covode, cashier, and William Hunter, attorney.

In his annual report Mr. Commander told the board that the nation's citrus crop this season was the greatest in the history of the industry, totaling more than 170,000 cars, an increase of 58 percent over last season. He said Florida's increase also was the greatest in history with an estimated total of 74,500 cars or 88 percent more than last season.

He reported that the exchange as of May 22 had handled 30,797 cars of 71,187 produced in the state or 43.3 percent of the crop. This volume will be increased to 45 percent before the end of the season, he said, as the exchange controls 70 percent of the fruit remaining in the state.

He said the exchange showed a net gain of 856 growers representing 17,714 acres in the exchange membership this season. Exchange operation costs as of May 10, he reported, were approximately 6 cents a box, compared with 7 cents last year.

The Growers Loan and Guaranty Co., a subsidiary of the Exchange, reported loans to growers during the year amounting to \$2,702,008, which was more than a million dollars above the loans advanced during the previous year, and fifty per cent greater than the previous high record.

Officers of the company were re-elected and only one change was made in the board of directors elected by the stockholders who consist of the exchange, sub-exchanges and associations. Officers are C. H. Walker of Bartow, president; H. G. Nickerson of Tampa, vice-president; S. L. Loney of Tampa, vice president and treasurer, and E. G. Austin of Tampa, secretary. M. M. Kendall was appointed counsel.

Directors are G. B. Aycrigg, Winter Haven, J. C. Chase, Winter Park; R. J. Kepler, jr., DeLand; C. Brad-

ford Fraley, Philadelphia; Homer Needles, Fort Pierce; Mr. Nickerson, John S. Taylor of Largo; E. L. Wirt, Babson Park; C. H. Walker, Bartow; J. O. Carr of Fort Ogden; C. B. Treadway, Tavares; P. C. Peters, Winter Garden and A. M. Tilden of Winter Haven.

Loans of the company to association and special shipper members of the exchange totaled \$1,080,267, an increase of nearly \$150,000 over the previous season. These loans were in addition to loans of the federal farm board which totaled \$2,520,000 and were handled through the company.

The Exchange Supply company, affiliation of the exchange, reported an increase of 45 percent over the past season, due partly to the increases in the crop and in part to greater support by the associations of the exchange. The company is the purchasing agency of the exchange for packing house and other association supplies.

C. H. Walker of Bartow was re-elected president, with P. C. Peters of Winter Garden as vice president. Serving with them as directors are F. E. Brigham of Winter Haven, J. C. Merrill of Leesburg, Rupert Smith of Arcadia, J. P. Waldrop of Winter Haven and R. H. Prine of Bradenton. R. P. Fariss was re-elected secretary-treasurer and J. D. Murdoch, manager of purchasing and sales.

WINTER HAVEN GETS U. S. CITRUS LABORATORY

Winter Haven has added another laurel to its citrus crown. Long recognized as the center of citrus production in the "Ridge" section, home of the Florida Orange Festival and some of the largest packing plants in the state, the town has now become the home of a government citrus laboratory, according to recent announcement.

Winter Haven agreed to erect a building for the laboratory provided the city should be selected as the site. Decision to locate the laboratory, at Winter Haven followed a visit to Florida of Dr. W. W. Skinner, head of the chemistry department of the federal department of agriculture.

FLORIDA MAN NAMED PRESIDENT INDEPENDENT FERTILIZER MANUFACTURERS

C. T. Melvin, president of the Gulf Fertilizer Company, of Tampa, was recently honored by being reelected president of the Independent Fertilizer Manufacturers Association.

The election took place at the annual meeting of the organization in New York on May 12th and 13th. The association is 28 years old and made up of forty-two of the largest fertilizer manufacturing companies from every section of the United States.

The association functions largely as a trade purchasing body serving its



C. T. Melvin

members in an international capacity in the matter of purchases.

The association also works for better import tariff rates, collaborates on terminal charges and insurance rates.

Mr. Melvin reports that the fall convention will be held in Atlanta in November.



FRUIT CLIPPERS

Our Clippers are the Round (Bull) Nose Type. They do not pinch the fruit — no clipper cuts — the shape of the Clippers permit clipping in close clusters of fruit better than other types.

NON-BRUISE PICKING BAGS

Carry the exclusive feature of the rubber-covered rim which eliminates the possibility of rust eating through the canvas. This feature also protects the fruit while the flexible inside belt makes these bags most comfortable. Their superior durability as compared with other bags has been proven beyond all question.



OUR CYPRESS FIELD CRATES

Are all made from the famous Gulf Red Cypress. We make them in all types—Solid Head—Channel Head—Dove Tail Joint Heads and other type Heads. The fact that we are the largest distributors of field crates in the state furnishes proof of the high character of our field crates. We are equipped in our factory to print crate heads.



TRUEST ECONOMY is evidenced in buying the very highest quality of merchandise at the lowest possible price and in the lines we handle we offer you just that opportunity.

TOWNSEND
Sash, Door & Lumber Co.
Lake Wales, Florida

PRATT DEFENDS CLEARING HOUSE

Statement of A. M. Pratt, Manager
Florida Citrus Growers Clear-
ing House Association.

The Citrus Industry,
Gentlemen:

It is only fair that the members of the Clearing House and growers in general should know specifically just why the unified industry effort as represented by the Clearing House has received a serious blow in the withdrawal of the Florida Citrus Exchange from participation in this industry effort.

We will, therefore, take up the written complaints emanating from Exchange sources and answer them—all being a matter of black and white records and therefore fair to all—and leave the verdict where it should rest, with the growers of Florida. Excerpts from Mr. Commander's recommendations to his Board on the subject of withdrawal will be quoted and answers will be taken from our written records which are already in the hands of the Exchange and most of their Sub-exchanges and packing units, as well as in the hands of our other shippers.

While reading these complaints and answers, bear in mind the following taken from Manager Commander's report on the subject of withdrawal:

Mr. Commander says of our Board and Committee of Fifty: "The Board is to be complimented on the excellent work it has done. Undoubtedly the reason for this satisfactory political work on the part of the Clearing House has been the fact that the responsibility and the directing energy for all of this work came from the two governing bodies of the Clearing House—the Committee of Fifty and the Board of Directors. The personnel of these two groups is composed almost exclusively of growers. These men, as growers, view the situation from the standpoint of what would be best for growers and for the industry as a whole. They naturally are interested primarily in the growers' welfare and in the final success and stabilization of the industry."

So there has been no complaint by the Exchange of our Board or Committee of Fifty and yet they were on the job all the time watch-

(Continued on page 28.)

JOHN D. CLARK CLARIFIES ISSUES

Statement of John D. Clark, Direct-
or of Citrus Exchange and Mem-
ber of Committee of Fifty

The Citrus Industry,
Tampa, Florida.

Gentlemen:

The only good I can do in making a statement concerning the Exchange withdrawal from the Clearing House would be to clarify the issue so others may be better qualified in coming to an opinion. My own opinion as a director of the Exchange or a member of the Committee of 50 is not important for it is so apt to be faulty.

There are at present two schools of thought as to how to organize the citrus growers of this state.

One group believes that the only way to do this is through a simon-pure grower co-operative, such as the Exchange, built up to a control in marketing of seventy-five percent or more of the state's production. They believe also that this desirable end justifies any means necessary to accomplish it.

The other group is equally alive and equally anxious for the citrus industry to be organized. They profess the hope that the Exchange will be successful in the task which is before them, but believe in the meantime it would be well to hold on to what we have until they are nearer to achievement of their goal.

The Exchange says that the activities of the Clearing House in carrying out its fundamental purposes of first, making all the shippers conform to better standards of grade and pack, and second, controlling the movement of fruit, and third, of advertising to build bigger and broader markets, creates a condition in Florida which is interfering with their efforts in building the Exchange and for that reason unless the Clearing House discontinues them they cannot continue to cooperate as a member.

As a director of the Exchange, I have urged and counseled their earnest cooperation with the Clearing House in more completely carrying out that essential thing, "Standardization," and especially of "Advertising." As a member of the Committee of 50, I have insisted that the Clearing House shape its course toward a

(Continued on page 29.)

TILDEN SAYS CLEAR- ING HOUSE ESSENTIAL

Statement of A. M. Tilden, President
of Florida Citrus Growers
Clearing House Assn.

The following interview with A. M. Tilden, president of The Clearing House Association presents his views regarding the present situation:

"We have been considering what we should properly do in behalf of the industry and have come to the conclusion that the first step should be a clear cut, energetic defense of the Clearing House and its Directors to those things that have been said against it and them. You are aware that nine of the eleven Directors of the Clearing House are members of the Exchange. I am confident that they shipped through the Exchange fruit owned by themselves or the companies they operate in, the amount of about 900,000 boxes. It seems scarcely reasonable that these nine Directors would have been so dumb as to have permitted their own sales agency to have been constantly discriminated against or harmed, nor are they so ignorant that they would sit by, failing to see wrong things if they occurred.

"Our second step will be to present honestly to the growers the general industrial situation. This will be done for the purpose of permitting the grower to consider what he is up against, and what he should do.

"And, third, inasmuch as we believe that there is an important place in this industry under present conditions for the Clearing House, we shall attempt to persuade growers and shippers to join or rejoin.

"At the same time, we expect to start a series of advertisements containing a few terse sentences which we will continue to run daily in all the papers of the citrus belt for about three weeks.

"We also purpose to issue a challenge to a debate at any time and any place on the subject 'Resolved: That under existing conditions, the Clearing House is necessary for the best interests of the Florida citrus industry. We earnestly hope that our challenge will be met and that we will be given an opportunity to debate this important subject.

"I want you to feel that the Directors are not interested in the

(Continued on page 29.)

CLEARING HOUSE REPLY

(Continued from page 13.)

and particularly the interests of the growers and producers of citrus fruit in that said resolution seeks to make participation of the Clearing House in any of its fundamental activities contingent solely upon the unanimous consent of shipper members, and in that it specifically authorizes its officers to withdraw from the Clearing House unless the conditions proposed in said resolution be accepted by the shipper members of the Clearing House without reference to the rights, interests and privileges of the thousands of grower members thereof, and

WHEREAS, this Board feels that the course of action requested of it by the aforesaid resolutions would be an utter perversion of the purposes of this Clearing House,

NOW, THEREFORE, BE IT RESOLVED:

1. That this Board does hereby assert its inability to act upon and its refusal to consent to the conditions proposed by the Florida Citrus Exchange as a prerequisite to its continuing its membership.

2. That this Board with all sincerity and depth of conviction calls to the attention of the Florida Citrus Exchange that its withdrawal from this Clearing House as contemplated under the terms of its said resolution would return the citrus industry of the state to the same condition of utter chaos and lack of confidence in which it was existing prior to the formation of this Clearing House, with consequent immense financial loss to growers of citrus fruit as well as to the shippers and to all other affiliated business interests.

3. That the Florida Citrus Exchange cannot hope to control supplies or solve the problems of the industry unaided, with its present volume, which was less than 35 percent of the total movement from the state through April 30th, and must cooperate with the other elements of the industry which are willing to cooperate through the Clearing House if any measure of control is to be attained.

4. That this Board hereby asserts its hope that the Directors of the Florida Citrus Exchange may see fit to reconsider their decision, and expresses an earnest desire to enter into conference with said directors in the effort to reach a mutually workable understanding.

IT'S MARKETABLE FRUIT THAT COUNTS

IN view of the present condition of the citrus market, insure your profit by growing a quality crop of the better marketable sizes. Put **SIZE** and **QUALITY** into your fruit this year through proper applications of Chilean Nitrate of Soda to your trees. Chilean helps in four important ways...

- (1) strengthens and invigorates the trees
- (2) improves size and quality of fruit
- (3) increases yield per tree
- (4) offers economy in your fertilizer cost.

The Chilean Nitrate plan of fertilizing citrus trees will cut the cost of your fertilizer and increase its effectiveness. If you do not know about this plan, write us for complete details. Let us show you how it brings down the growing cost per box to a point where it pays to ship even in the face of low prices.

NATURAL... that's the Secret

Chilean is the natural nitrate. It is more than nitrogen. Thanks to its natural origin, it contains those valuable "impurities," Iodine, Boron, Magnesium, Potassium, Calcium, each a plant food in itself. It is the super-nitrate... Nitrogen PLUS.

Now packed in 100 lb. bags. More convenient. Better condition. See your dealer. Say Chilean when you order and insist on Chilean. Two kinds... Original Chilean (Crystals) and Champion Brand (the pellet nitrate). Both are the genuine natural Chilean. Both are Nitrogen PLUS.

CHILEAN NITRATE OF SODA EDUCATIONAL BUREAU

Orlando Bank & Trust Bldg., Orlando, Florida

In writing for literature or information please mention Ad No. K 25



ECONOMICS BUREAU OPENS NEW LINES OF AID TO FARM- ERS, OLSEN REPORTS

Several new lines of economic research service looking toward the organization of the farm industry on a more profitable basis were established in the fiscal year ending June 30, 1930, by the Bureau of Agricultural Economics, according to the annual report of Nils A. Olsen, chief of the bureau.

Mr Olsen says that "with agriculture continuing to face critical economic difficulties, the resources of the bureau during the past year have been put to maximum use in meeting the demands for economic service and information. The regularly issued reports have been supplemented with numerous special inquiries; the economic research has been directed in large measure to emergencies of one kind or another; and the general information and inspection services have been amplified wherever possible.

"Special effort has been made by the bureau to evaluate the tendencies in competition and demand and to provide a better basis for essential adjustments in our agriculture. The analysis of price trends has been strengthened and the long-time phases of the agricultural outlook have received increasing attention. Measures have been initiated to focus, by type-of-farming regions, the farm management researches of the bureau upon the organization and operation of farms. Special effort has been made to determine the best uses for submarginal agricultural lands.

"A foreign agricultural service division has been created in the bureau, and trained observers are now being stationed in the important competing and consuming regions of the world to report currently on developments affecting foreign competition and demand. In the development of this service there will be the closest coordination with the foreign offices and activities of the Departments of State and Commerce.

"Under an act authorizing the Secretary of Agriculture to conduct investigations of cotton ginning, an experimental cotton-ginning plant will be built and operated by the Bureau of Public Roads and the Bureau of Agricultural Economics to study the effect of various ginning methods and practices upon the quality of the lint. The perishable agricultural commodities act, enacted by the last Congress, provides for the licensing of commission merchants and others engaged in the buying and selling of

fresh fruits and vegetables, and is intended to prevent unfair and fraudulent practices in the handling of these products. A special organization is being created to administer this far-reaching legislation.

"A tobacco section has been established in the bureau to administer the tobacco stocks and standards act which requires quarterly reports of tobacco stocks by types and groups of grades. A tobacco inspection service has been inaugurated and other services are being developed in this com-

modity section.

"The bureau also is working in close cooperation with the Federal Farm Board. The activities of the Federal Farm Board are primarily in the field of action, but obviously the board must have the necessary facts upon which to base its conclusions and policies. A primary function of this bureau is to collect and interpret economic data.

In writing advertisers please mention The Citrus Industry.

CITRUS PROFITS are largely a matter of proper Fertilizers for the Summer Feeding

CITRUS GROVE OWNERS who have used NACO Fertilizers recommended by the field representatives of this company have no cause for worry as to their fruit holding on or the trees remaining in splendid condition over the long hot and generally wet summer months.

If you did not use NACO Fertilizers, compare your grove during the summer with your neighbor's grove that is fertilized with NACO Fertilizers which contain liberal quantities of Genuine Peruvian Guano . . . Nature's Finest Fertilizer.

NITRATE AGENCIES COMPANY
1401-1407 LYNCH BUILDING
JACKSONVILLE, FLORIDA



IMPRESSIONS

By the Impressionist

Following earlier disclosures of large advances, or rather action to secure large loans by banking connections, to certain fruit handling concerns, as related in these columns, the Pennsylvania Railroad has changed its policy. Recently official assurance to that effect was given publicly to a committee of the produce trade which went into the matter following the disclosures in Congress. Henceforth the Pennsylvania, for itself, its subsidiaries and holding companies, undertakes to 'tend strictly to its own knitting.

Now comes the Erie and gives a

similar undertaking to the committee and makes it public, though it had not been recorded as thus offending.

What the Interstate Commerce Commission may or may not do about those loans has not yet been intimated. It can hardly ignore them; and yet it is a "spilt milk" problem. What disturbs the shipping public is the fact that the Interstate Commerce Commission with all its prying departmentals apparently was wholly in ignorance of these loans; and it remained for the committee on interstate commerce of the House

of Representatives to discover their existence.

One such large loan certainly was a bad loan, as proven by the borrower's inability to repay. In many minds that brings up the question of the relation of outside financial activities to freight rates, if large carriers be permitted to dissipate their earnings through channels not connected with transportation activities.

Only dead silence as yet from the Interstate Commerce building up on
(Continued on Page 30.)



IT'S THE FINISH THAT
COUNTS

Sets up a new Standard of
Polishing Efficiency

Our latest model all-steel Skinner Polisher is the finest polisher Skinner has yet produced, being a culmination in one machine of the experience of 21 years of polisher building to meet Florida conditions. It sets up a new standard of polishing efficiency by doing the job better in less time and at a lower cost for repairs and power consumption. It will handle all kinds of Florida fruit—both round and flat—polishing both stem and blossom ends. All-steel construction insures durability. Moving parts are kept in alignment and always run in balance. High speed brushes are mounted on ball bearings, gear boxes are bronze bushed, main bearings are roller.

Improve the appearance of your pack by putting in one of these fine modern machines. The market buys by the eye—it is the FINISH that counts.

FLORIDA CITRUS MACHINERY COMPANY

B. C. SKINNER, Pres.

Division Food Machinery Corporation

Dunedin, Florida

PRATT DEFENDS

CLEARING HOUSE

(Continued from page 24.)

ing the Operating Committee as well as all other operations. Our Board was solely responsible for seeing that discrimination in no form was permitted and stood ready at all times to review any complaint from any member, most certainly a complaint from their own shipper member and which involved 50% of the Clearing House volume.

COMPLAINT NO. 1.

"The Clearing House as far as controlling shipments are concerned has failed completely."—"The question of allotments never has been fairly handled by the Operating Committee. The Florida Citrus Exchange, with its two votes out of eleven, was in no position to force a handling of the situation which would be satisfactory to the industry as well as to its growers"

ANSWER.

Effectiveness of Prorating to May 23

In oranges our shipments were prorated in 10 different weeks. We did not prorate in 26 other weeks. During the prorating weeks we moved 64% of the state crop. During the weeks when we made no prorating we moved 73% of the state crop. 7876 cars of oranges were allotted and 7778 cars were shipped in the weeks allotted. Is there anything in this to indicate our control of shipments "failed completely"?

Grapefruit Prorating

Grapefruit shipments were allotted to our members during 21 separate weeks out of a total shipping period of 38 weeks. During these allotment weeks, the Clearing House moved 68% of the state shipments for those weeks. During the period when no allotment was made the Clearing House moved 70% of the state shipments. Is there anything in this record to prove prorating "failed completely"?

Representation On Operating Committee

The wrong impression has gone abroad and may be generally in the minds of Exchange people that the Operating Committee decided what each shipper could ship or each shipper's allotment. They never did so for any shipper. They declined to do so when Mr. Patterson of the Exchange brought before the Operating Committee the claim that the Exchange made in the Fall that it should have 52% of the Clearing House allotment. As Manager, I ad-

THE CITRUS INDUSTRY

vised the Operating Committee at that time, I would allot the Exchange 50% of our volume unless they instructed otherwise. The Operating Committee was unwilling to pass on this or any individual shipper's allotment as they felt such decisions should be exclusively in the hands of the Manager and the Board, inasmuch as the members of the Operating Committee were competitors.

At Mr. Commander's suggestion and request the Exchange was given one representative on the Operating Committee the first year of the Clearing House. The second year, at the request of the Manager and without a request from the Exchange, the shippers placed two men on the Operating Committee representing the Exchange. At the beginning of this year the Manager requested that the shippers name three members from the Exchange on the Operating Committee. Mr. Commander was present and in fact a member of the nominating committee but failed to take advantage of this recommendation.

The Exchange has never asked formally for greater representation on the Operating Committee. It is within the power of the Clearing House Board to grant such a request if our Board deemed it necessary from a standpoint of fairness. The Exchange representatives on the Operating Committee have been embarrassed many times due to the fact that frequently matters came up on which they could not act because they were not authorized by the Exchange; whereas the other members of the Operating Committee were men with full authority prepared at all times to act decisively. Had Mr. Commander, who is a member of the Operating Committee personally represented the Exchange instead of having a substitute, this difficulty would have been obviated. Is the Clearing House at fault because of this situation?

The First Year

Mr. Commander was Chairman of the Operating Committee the first year. Thirty-one meetings were held while he was chairman, during which time he was present at 12 meetings, absent at 19 meetings, usually being represented by General Blanding. Is the Clearing House responsible for Mr. Commander's resigning as Chairman of the Operating Committee or his failure to attend meetings?

Analysis Of Allotment Motions

All of our shipper members have received the complete minutes of each Operating Committee meeting. An

June, 1931

analysis of the motions bearing on prorating shows from the beginning of the season to Apr. 11 the following:

In the 17 different weeks when the question of allotment was officially acted on as to oranges, the Exchange either moved or seconded 13 of such motions which were carried.

In the 22 weeks of prorating on grapefruit, the Exchange either moved or seconded 15 of the motions that decided the prorating policy.

Bear in mind, the above motions merely covered the total to be allotted, not what the Exchange or any individual shipper should be allotted. Individual allotments were handled by the Manager and the Board.

COMPLAINT NO. 2

(From Mr. Commander's Report)

"When we protested (on our allotments) we were ignored and criticized. Finally, we were forced to ask for a joint meeting of the Clearing House Board of Directors and our own Board of Directors. At this meeting we presented the details of the unfair practices of the Operating Committee and asked for their correction.

"Following this meeting the Operating Committee was instructed by the Board of Directors of the Clearing House to base its allotments on the actual holdings of each individual operator after the new estimate had been completed and not upon the former claims of the operators as had been done. The Committee was further instructed to cut out the exceptions made on f.o.b. sales and to handle the allotments on a fair and equitable basis."

ANSWER

Clearing House Determined Exchange Allotments

Because the Exchange Board on December 12 passed a resolution claiming unfairness, claiming they had 60% of the Clearing House volume and 50% of the State output, the Clearing House Board, which assumes full responsibility in all such matters, met on December 26 and called for a most complete analysis, which resulted officially February 6 in their agreeing that the 50% allotment up to that time had been fair, and then allotting the Exchange in accordance with the recommendations of the Manager, 52.4% of the total season volume of the Clearing House and 54% for the balance of the season. The Board instructed the Manager to proceed according to these percentage figures.

The result is this: To June 1st the Exchange has marketed 50% of this

season's Clearing House tonnage instead of the 52.4% allotted and the 60% claimed by them. They have marketed 36% of the state shipments instead of 50% as claimed. Is there anything unfair to the Exchange in this Official Board action? It has proven more than fair.

COMPLAINT NO. 3

(From Mr. Commander's

Recommendations)

"After receipt of these instructions from the Board of Directors, no further prorating of shipments was attempted by the Operating Committee. This, in itself, is definite evidence that the committee recognized its inability to control shipments by means of proper allotments. Further, it is evidence of the willingness of the committee to attempt to do so only when the Exchange could be put to a disadvantage in the establishment of such allotments."

ANSWER

That Mr. Commander's statement is in no way correct is proven by the fact that our records in the hands of the Exchange and all shippers show that between January 3 and May 2 we prorated during 10 different weeks definite allotments to our shippers, six of these allotments being from February 7 on. Had the Exchange insisted, they could have carried the prorating policy through all these weeks. The facts are that the Exchange did not send representatives to our Operating Committee meetings during the weeks of January 23, March 13, March 20, April 10, April 17, April 24, May 1.

In closing may I say our records are not only open, but every action of the Operating Committee was mimeographed in the weekly minutes, passed to all our shippers, to all Directors, to all the Committee of Fifty and most of the time to all packing house units, including those of the Exchange.

More than that, 9 out of 11 of our Directors have been growers shipping through the Exchange and were solely responsible for any unfairness, with full authority by Charter and By-laws to veto any wrong action of the Operating Committee. The President of our organization, Mr. A. M. Tilden, (President of the Florence C. G. A.), as well as the Committee of Fifty Chairman, J. C. Morton, (this year member of Auburndale Exchange) attended nearly all Operating Committee meetings and usually a few other members of the Committee of Fifty, the big majority of whom are Exchange members.

THE CITRUS INDUSTRY

TILDEN SAYS CLEARING

HOUSE ESSENTIAL

(Continued from page 24.)

Clearing House or any agency as such but they are in some medium wherein all competing agencies can meet on a common ground for the common good of the common grower, without detriment to their own individuality or affairs. Of course, this includes general industrial problems such as litigation, legislation and general public relations.

"We desire most earnestly to be entirely fair and honest. We have no intention of attacking anybody or of departing in any way from the high principles which the founders of this Association intended should govern its actions.

"We all deeply regret the withdrawal of the Exchange and Gentile Bros. It has seemed to us that if there were any particular sales agency in the State which should first be mindful of its grower clients before being mindful of its own particular prosperity, it should be the Exchange. We can understand how a so-called independent might naturally think first of the upbuilding and earnings of his own particular business but that should not be the disposition of the cooperative.

"Feeling as we do that the Exchange has not been discriminated against nor harmed, that its large tonnage has always been given marked consideration as have been its various internal problems, which, of course, are different from those of the so-called independent operators, we cannot understand why the Exchange does not seize its opportunity in the Clearing House Association to do for all the growers of the State those things which it attempts to do for its own growers.

"Better than forty of the Committee of Fifty members are Exchange men, also. It is logical to believe that they would be motivated by the education they receive in their local associations and through the Exchange and so would have a broad point of view and certainly would not permit their own agency to be hurt.

"We have repeatedly, by resolutions and by word of mouth, both in the Committee meetings and before the Exchange board, begged of them to sit around the table with us to iron out the apparent difficulties and decide what are the things which the competing elements of the State can do for the good of their grower clients. We have a Charter and By-

JOHN D. CLARK

CLARIFIES ISSUE

(Continued from page 24.)

more complete accomplishment of its three great fundamentals, and in urging both these organizations to do these things I feel I have been a friend to the entire industry and above all to the growers.

Is there something else more important than the welfare of the whole industry? This has been my standard of measuring value of any action whether it be of men or organizations.

I know most growers are anxious to have the Exchange go forward to a permanent and enduring success and must view this latest move of abandoning the Clearing House with much misgiving.

Very sincerely yours,
John D. Clark

JDC/EC

laws and thousands of grower contracts embracing fundamental principles; a violation of these would, in effect be a violation of all of these contracts. The Clearing House Directors feel that they have no right to do so but they feel further that the putting into effect of those fundamentals require constant and continuous supervision and alteration to meet changing circumstances. For this purpose, we are most anxious for a general conference.

"We think it right and proper that our Association should be of every use possible to its membership. We must never tear down or destroy but on the contrary assist our grower members to better serve their grower clients, who are our members and, at the same time, all of the growers of the State."



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IMPRESSIONS

(Continued from Page 27.)

"H" Street; but can the Commission long remain silent?

Jefferson Thomas, long associated with the advertising of the Florida Citrus Exchange, on June first left for Connecticut where he is now located in his present work in connection with the plant quarantine administration of the U. S. Department of Agriculture. Jeff has many friends in Florida, who will hope that his stay outside the state will not be over long.

Now John A. Snively is president of the Florida Citrus Exchange; and it is safe to predict that the Exchange will gather no moss along its spinal column during his administration. While his elevation to the presidency came as a surprise, it isn't after all so surprising. Let's see, it is ten years now since John became a director of the Exchange, and right along he has been working pretty hard at the trade. He brings to the job certainly a very intimate and thorough knowledge of Exchange affairs, relations and inter-relations.

John Snively makes the third, out of the six presidents who have reigned during the existence of the Exchange, to come up from the Florida Citrus Growers Assn. at Florence Villa.

Just a suggestion to John S. Taylor, J. G. Grossenbacher, R. J. (Dick) Kepler and Rupert Smith, who now constitute the Exchange's four vice-presidents, that they form a vice-presidents club. They can be absolutely sure of a high class membership, which is a fine foundation for a successful organization.

E. H. Hurlbaeus, formerly county agent, and long identified by his work in connection with citrus fertilization problems, now has been chosen by the Fugazzi Bros. organization to have active charge of the Pinellas County groves of that company. It is our impression that here is a good man for the job; and that something possibly may be gained by watching the results of his work.

The United States government, speaking through the Federal Trade Commission, having definitely decided that the Indian River country includes the southern portion of Volusia county, Brevard county, Martin

county, Indian River county, St. Lucie county and the northern portion of Palm Beach county, only fruit from this area may be marketed as "Indian River fruit."

And now the Indian River growers have joined together into a formal organization to assure this, and to work together upon their common problems. W. I. Fee, the Fort Pierce grower who otherwise is widely known on the East Coast for his work in connection with mosquito control, is secretary, Waldo E. Sexton, prominent Vero Beach citrus grower heads the organization as president.

Many prominent Indian River growers have participated in the formation of the organization, among whom we might mention Senator A. D. (Tony) Young of Vero Beach and J. V. D'Albora of Cocoa. The aim now is for a membership which will comprehend every commercial citrus grower in the Indian River country; and prospects look very good for achieving this.

Very interesting the later experiments by the Exchange with the proposed new, veneer-drum package for shipping citrus fruits. It is claimed for the new container that it is lighter than the usual box, affords better ventilation, and stands better the hazards of freight travel without necessity for the use of the usual car strips. Also that the elimination of tissue wraps and wrapping effects a considerable saving. It is stipulated that it is as yet distinctly an experiment; but it is said that the reception accorded the first shipments in the markets has been quite encouraging.

As this is written the vast Imperial Valley cantaloupe industry is at the height of its seasonal activity. The low prices, which seemingly are the fashion in all foodstuffs, are moving a great quantity of cantaloupes into consumption; but are certainly no sources of profit to growers, shippers nor wholesale handlers in the markets. This business of being readjusted is unpleasant at the best; it is still more unpleasant to be among the first in line for readjustment, as is the item of foodstuffs in the present scheme of national, and international, economic readjustment.

When the time comes, if ever it does, that we can board a train and

ride to Chicago and back here for thirty bucks, then we shall know that complete readjustment has become an accomplished fact.

After all, all things are relative, which has nothing whatever to do with Einstein, Hoover nor Will Rogers. It is the disturbance of relative conditions, even temporarily, which plays hob.

Kids were named for Teddy Roosevelt at one time in all parts of this country, but we never heard of any so named over our own border line. Consequently when up in Quebec a youngster was named for us we rather swelled up a bit and pointed with pride to the nice discrimination of Canadian folks. Now, however, we are not so sure. First that duty of a cent a pound on grapefruit imported into Canada, and necessarily all grapefruit must be imported into Canada, and necessarily all grapefruit must be imported in order to be there, and now the new duty of seventy cents per box on oranges incline to make us somewhat pained and thoughtful.

C. T. MELVIN ATTENDS NATIONAL FERTILIZER CONVENTION

C. T. Melvin, president of the Gulf Fertilizer Company of Tampa attended the National Fertilizer Association Convention at White Sulphur Springs, Va. Mr. Melvin is a member of the National Soil Improvement Committee, composed of eighteen men from every section of the United States and whose work is of the utmost importance to the association they represent.

FOR SCALE, RUST MITE AND WHITE FLY

Apply VOLCK or KLEENUP thoroughly during May or June. It is a simple treatment that has proven very satisfactory.

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CITRUS COMMENTS

—BY—

Charles D. Kime, Orlando, Florida

This department is devoted to furthering horticultural interests of Florida. Letters of inquiry, discussion or criticism will be welcomed

Sulphur Dusting

Among the plant food elements that are used in fertilizing citrus sulphur plays a very large and much more important part than is realized by the average grower. Further than this many investigators have also overlooked the importance of this material in plant work.

It seems to be partly a happy combination of circumstances that sulphur is also of great value to us in insect-pest control. Put in another way, sulphur is a dual material. First and foremost it is a very valuable plant food element, and second, it is almost equally as valuable in control of mites affecting citrus trees and fruit.

The mite control relationship of sulphur was and still continues to be uppermost in the mind of the citrus grower. The plant food relationship is very rarely a part of any discussion on citrus subjects.

Due to the prevalence of rust mites at this time of the year, the pest control value of sulphur is of especial importance to us. Like other methods of pest control in use today, there is considerable variation in method of doing the work with sulphur. Some of the variation is certainly permissible, but on the other hand, if allowed to go too far the work becomes ineffective and can certainly be classed as a useless and wasted expense. If we can avoid some of the waste by more systematic and careful handling of the job it would certainly pay us to do so.

Recommendations for the use of sulphur dust are easily obtained. The simplicity of the operation is outstanding, but strange to say this very point seems to give rise to a huge amount of wasted effort.

The mistakes that add so much to the expense of rust mite control seem to have arisen from a lack of emphasis on a few of the all important points.

Modern equipments have extended dusting range and have speeded

up the rate of application enormously. At the same time the use of motorized equipment has given rise to too much speed in many cases. This is especially true where group dusting is practiced. In nearly every case the rules of good dusting are being violated by group dusting and unfortunately this same condition prevails in commercial dusting work. Figuring the cost of the job on a per acre basis means that a premium is placed on speed of application. Speed beyond a reasonable limit is always lost motion and runs up expense instead of cutting it down. It means that the acreage covered is the prime

the dusting is done, but it will mean a repeat job later on and after that another job. As many as seven dustings have been done under such conditions.

Seven dustings, when two and often one and never more than three are sufficient is certainly a waste of energy and material.

The expense of telling when to dust and the effectiveness of the application cannot be considered any greater under an effective set-up than under an ineffective and wasteful set-up. In either case the amount of preliminary and subsequent inspection will run about the same in

Orange and Grapefruit Dusting Table
Simple Rustmite Control Only

	First Dust	Second Dust	Third Dust
Disease or Pest	For Rustmites	For Rustmites	For Rustmites
Material to use	Use pure Flowers of Sulphur	Use pure Flowers of Sulphur	Use pure Flowers of Sulphur
Time	Dust in May Begin Grapefruit 10th to 15th Oranges 15th to June 1st	8 days after first if rain washes off sulphur, or wait until Mites re-appear on fruit and redust.	During December, January or February if Mites show up on fruit
Where to Dust	Cover leaves, fruit and all green twigs	Cover leaves, fruit and all green twigs	Cover leaves, fruit and all green twigs
Result Sought	Bright Fruit	Bright Fruit	Bright Fruit

Chances of clear weather for six days are better in May than in June, therefore dusting somewhat earlier than actual infestation might indicate, is advisable.

Sulphur dust (pure sublimed flowers of sulphur) will cover a medium large seedling at rate of 1 lb. per tree. Smaller trees will take less dust. A hand lens will easily show up dust particles on leaves and fruit. Dusting is very satisfactory for rustmites.

consideration and not the bright fruit that may be obtained. Checking behind low cost dusting almost invariably reveals skips where the tree is not covered and adult and young mites are present. An additional loss is incurred in endeavoring to cover trees by dusting from one side of the tree row only. It is true this will save some time on the day on which

point of time required.

The amount of dust required for an effective and complete covering of the tree cannot be definitely set down on paper as it will depend on the kind of dust and on the size of trees. The degree of infestation should not be considered under quantity to use, but is all important in

(Continued on page 34.)

TREND OF FERTILIZER PRACTICE WITH REFERENCE TO CITRUS CULTURE IN FLORIDA

(Continued from page 8)

study the effects of several combinations of synthetic and other chemicals, with the idea of developing a fertilizer mixture which will promote satisfactory growth and yield of quality fruit. Mixtures will be compounded, having a physiologically basic reaction, and others a physiologically acid reaction, and used with and without rare chemicals.

You are undoubtedly familiar with the effects of manganese sulphate on truck crops of the calcareous and non-acid soils of Florida. There are other unusual chemicals that have a stimulating effect on certain of these soils as remarkable as that of manganese. Some preliminary citrus experiments with manganese sulphate are in progress on acid and alkaline soils. On some soils there is an observable improvement from manganese in tree condition and fruit production. In other cases there was improvement in condition of growth in early spring, but this improved condition was not maintained throughout the summer.

In a grove at Sharpes, Florida, where the soil was slightly alkaline, having a pH of 7.4, manganese sulphate produced a larger and smoother orange. The oranges where manganese was used were 5 per cent larger and heavier than where no manganese was used. In a grove at New Smyrna, where the soil was slightly acid and having a pH of 6.0, the oranges grown where manganese was used were 7 per cent larger than where no manganese was used. The production of fruit in both groves with and without manganese was about the same. After shipment the oranges in each grove grown with manganese required more pressure for crushing than those grown without manganese.

Extensive experimentation with uncommon elements likely to be deficient in Florida soils would seem of value and their use in conjunction with concentrated fertilizer mixtures having various chemical reactions should prove a promising line of investigation.

In considering the fertilizer problem for Florida citrus soils the cover crop or green manure question and soil acidity or calcium deficiency should receive comment. The best fertilizer will fail to produce satisfactory results if used on land devoid of organic matter, or if used on

land that is excessively acid or, occasionally, on land that may contain excessive amounts of lime. The growing of cover crops in Florida groves has been widely discussed and their benefits demonstrated.

The subject of soil acidity and its relationship to citrus fruit production is a very interesting one. The importance of calcium for proper metabolism has been demonstrated by Reed and Haas. If deficient, leaf abnormalities develop, but on the other hand, excessive quantities are detrimental.

A number of years ago liming groves in Florida was rather common practice. It took several years to realize that this practice was proving harmful on the light sandy soils of the ridge section. Objections to liming were pointed out by Floyd (1) while working at the Florida Station. The work of Burgess and Johlman (2) in Arizona may shed some light on the problem. They have shown that excessive amounts of calcium carbonate caused injury and chlorosis but this condition was alleviated to a large extent by the incorporation of vegetative matter. The higher the organic matter of the sand the less sensitive was the plant to excessive lime application.

The physical characteristics of soils, drainage, and organic matter content are possible factors determining the influence of lime on citrus Sections on the East coast and the lower-lying heavy soil types of the citrus belt generally, may have a pH approaching neutrality or even alkalinity and yet maintain excellent groves while a similar soil reaction

on the sandy Ridge belt may be unfavorable for tree growth. The soils of the Ridge are variable in reaction as shown in the recent work of B. R. Fudge (3) of the State Citrus Experiment Station, whose researches contribute to the knowledge of the lime question.

Where it is deemed advisable to apply lime to citrus soils to control the reaction small amounts used periodically to maintain a pH of 6.0 to 6.5 would seem preferable to a single application to accomplish this soil reaction. The question of whether added lime is beneficial as a result of correcting soil acidity or because it supplies available calcium to the trees should be given thought, and the possible deficiency of calcium in Florida soils should be considered when compounding concentrated chemical fertilizers.

These problems, including a study of the effects of such fertilizers, when reinforced with essential elements, are ones which we hope to study in experiments on soils of varying reactions and types.

Among the encouraging developments in the manufacture and use of chemical fertilizers may be noted the growing appreciation on the part of both the manufacturers and the growers, of technical information pertaining to the use of chemicals for different crops and under different climatic conditions.

- (1) B. F. Floyd. Some Cases of Injury to Citrus Trees Apparently Induced by Ground Limestone. Florida Agricultural Experiment Station, Bul. 137 (1917).
 (2) P. S. Burgess and C. G. Johlman. Citrus Chlorosis as Affected by Irrigation and Fertilizer Treatment. Agricultural Experiment Station, Bul. 124 (1928).
 (3) B. R. Fudge. Soil Acidity and its Relation to Growth of Citrus. The Citrus Industry, Vol. 11, No. 9 (Sept. 1930.)

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CHAS. B. GRINER, Manager

GROVE PRACTICES ALONG THE INDIAN RIVER

(Continued from page 9.)

I have yet to find substantial experimental data, or satisfactory results from the practice of such a system sufficient to warrant its recommendation, exclusively.

The reverses that have come to growers during the past few years have been very disturbing, and the low returns of fruit this year have made growers everywhere particularly susceptible to new ideas, untried formulas, and half-baked experiments which are being offered them.

Please understand me clearly, I believe that research work, properly organized, carefully conducted, with its results carefully checked and correctly analyzed, and after a period of years sufficient to establish the results, and then these conclusions expressed in terms that can be understood and applied by the layman, is of tremendous value.

Never before in my fifteen years in this business in Florida has the state been over-ridden with so many "experts" who have evolved new plans of salvation for the citrus grower. All of these schemes and isms have one thing in common, they each and all of them are going to show the grower how to grow more fruit, better fruit, and at half the price, with this exception—the grower must pay the expert handsomely for his marvelous services or his products. There are times when I am dazed by the rapid turn of developments. I spent four years in college studying horticulture, and then for eighteen years I have tried practicing it, and studied constantly, and I have spent fifteen of those years in Florida, yet I meet every once in a while some expert who has been in the state anywhere from one to five years, who can tell me more about citrus culture than I ever hoped to learn. The amazing fact is that the one-year man knows more than the five-year-man. To me all of this is a warning. It is only a danger signal that I must at this time above all times sit steady. Whatever I do with my grove must be done only after careful deliberation, and in line with those well established and time-proven practices. It is my thought that during these times when the whole world is trying to get something new started, when there is a bewildering barrage of propaganda being spread for the purpose of disturbing everything, from our usual method of combing our hair to a radical form

THE CITRUS INDUSTRY

in the fundamentals of our republican government—under these conditions I reason that little wonder the citrus grower is going to be told that all he has ever done may be wrong and he must right about face if he expects to survive.

In concluding this discussion on fertilizing hammock groves, I want to say that the reputation of the Indian River fruit was made by fruit grown by the use of properly balanced fertilizers, containing the three essential elements of plant food, and derived from such a variety of sources as best offer the tree its nourishment at a constant and steady rate throughout the year. There is no class of grove property that will tolerate unbalanced methods less than the hammock grove. It is particularly sensitive to neglect and radical practices, but like a thoroughbred responds beautifully to a common-sense method of handling. Nature, in building the hammock lands, never contrived, though I think she could have done so if she thought best, to let loose a wad of ammonia at one time of the year, and a shot of phosphoric acid at another time, and then at her convenience feed her plants some potash. To Mother Nature this method must have appeared unsound. Let's forget a lot of bewildering theorizing and confine our activities to following the example of Mother Nature, when she built the wonderfully productive hammock soils, and the more we conform to her example the more conveniently she can turn our best efforts to our best interests. Mother Nature feeds her trees a complete plant food, containing all the essential elements and gives them steady and constant nourishment.

CITRUS RECIPES

Orange and Grapefruit Marmalade

3 cups (1½ lbs.) cooked fruit

6 cups (2½ lbs.) sugar

½ cup bottled fruit pectin

Remove rind in quarters. Slice peeled fruit very thin crosswise, removing seeds. Then cut slices fine, discarding hard centers. Lay rind flat, and with sharp knife, pare off about ½ of white part of rind. Discard these whites. Shred yellow rind very thin, add 1½ cups water and ¼ teaspoon soda, and cook, covered, for just 10 minutes, stirring occasionally. Then add cut-up fruit. Simmer, covered, 20 minutes longer. Measure 3 solidly packed cups of this cooked fruit into large kettle, adding water

if necessary to fill third cup. Add sugar, bring to a boil, and BOIL GENTLY 5 minutes. Remove from fire and stir in pectin. Stir occasionally for just 5 minutes to cool slightly, to prevent floating fruit. Pour quickly. Cover hot marmalade with film of hot paraffin; when marmalade is cold, cover with ½ inch of hot paraffin. Roll glass to spread paraffin on sides. Sometimes sets very slowly. Requires 2 oranges and 1 small grapefruit. Makes about 8 eight-ounce glasses.

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Citrus Comments

(Continued from page 31.)

deciding when to apply it. Real old trees such as large seedlings show poor covering when the amount of sulphur applied runs less than one and one-quarter pounds per tree. If an actual examination shows good covering on less sulphur, then less can safely be used.

Judging good coverage is not difficult and it can be done rather quickly by anyone using an ordinary hand lense running from 6X up to 14X. A higher magnification than 14 times is hard on the eye and is unnecessary. A lower power than a 6X is too low to detect eggs easily or even to see young mites when they are widely scattered.

Checking up on the degree of infestation preliminary to dusting necessitates a walk through the grove and a series of looks through the hand lense at a good number of fruits. The whole fruit can be revolved under the lense so that most of it can be seen. If mites are scarce they are more likely to be seen near the stem end and somewhat on the under side. If they are real plentiful the survey should have been made sooner. The infestation is serious when something like eight mites or more may be easily seen in the field of the hand lense, as it is held stationary at any point on the fruit. In other words, look for the heaviest point of infestation on the fruit. Mites show a tendency to occur in a loose grouping when not abundant.

Very extensive checks made of commercial dusting jobs in Orange county and in other counties gives some interesting information on time of day to dust, and kind of dust to use. It was apparently easy for careful operators of dusting machines to secure practically one hundred percent (100%) kill of rust mites with not more than two dustings made eight days apart. These careful operators secured such results during rainy weather. When no rains occurred for at least five days after the application, only one dusting was found necessary for the whole summer. In all of these cases of extra careful application good results were secured with flour or flowers of sulphur. But in every case where for any reason the application was not made in an extra careful manner the flowers of sulphur gave more satisfactory results than any of the ground (flour) products whether mixed with lime or not. In other words, the flowers of sulphur is nearer fool proof

and makes up for some of the carelessness in application that is bound to occur where the grove owner demands low-cost dusting instead of extra careful application. A further advantage was noted in that the flowers seemed to last much more effectively through rainy or unfavorable weather than the ground product. Certainly because of its uniformity of condition, all pure sulphur of the most volatile type it is possible at this time to produce, there were less skips on the tree when, as one grower expressed it, "the mites grew fat on the dust", instead of being killed. Adequate covering of the tree was obtained with less dust where flowers was used than where the flour was applied.

There are some important technical reasons that have been developed regarding sulphurs that give a further basis in justifying the additional expense incurred in using flowers of sulphur over the lower cost ground product.

Since it is necessary to see that a tree is covered with a deposit of sulphur particles, none of which are further than 1-16 to 1-32 inch from its neighbor, favorable conditions for applying are necessary. Night dusting or early morning work has become customary to many growers. At this time of the twenty-four hours there is often no wind and the trees may be damp from dew. Both conditions are desirable. While it is harder to see what is being done at night the work can be done so satisfactorily to the labor employed for the purpose, that night dusting is highly desirable. Daylight work, as long as it is not windy, has no objections whatever, so a job once started can be continued until finished unless stopped by wind or rain.

This year mites have appeared in enormous numbers much earlier than is the average. As a result much dusting has already been done. If more than two are necessary before winter a slip has been made somewhere.

Natural mortality (fungus control) has already been in evidence for some time. Such control cannot be relied on as a preventive of russeting. Nearly always there is a high percentage of russet fruit before the mites die out and it is only rarely that they are killed off in total. Another unsafe situation arises following early sprays of lime-sulphur or other material for pest and disease control. Appearance of the mites may be delayed but it is not prevented by such work. A watch for sum-

mer outbreaks must therefore be maintained. Lime-sulphur liquid is a better rust mite remedy than sulphur dust. However, it costs much more to apply and skips made by the spray crew are usually numerous. In other words, it is easier to find live mites behind a spray crew than behind a dusting outfit. The time taken in applying the spray is often very important both from the standpoint of getting over the grove before russeting occurs and delaying other grove work. Roughly, the cost between the two types of control, spraying vs. dusting, is 3 to 1 for old bearing groves. That is, one can dust three times for the expense involved in making one spray. This does not consider the loss in time from other work. A good outfit can effectively cover nearly eighty acres in a day with dust, but try the same with a spray crew the same size.

Summary Common Dusting Mistakes

1. Using a cheap dust high in lime or other carrier material. Only the sulphur in the dust will kill rust-mites or help control spiders and scale-crawlers.
2. Using too little to the tree and covering only one side of the tree thoroughly.
3. Not dusting both sides of tree.
4. Not covering end trees of a tree row properly.
5. Not repeating the dust on the eight day interval if a rain occurs before all of the rust mite eggs have hatched.
6. Being in too big a hurry to cover acreage.
7. Dusting during windy weather or just before a rain.
8. Not checking back over the work done to be sure that the tree is being covered with dust.
9. Using badly worn brushes in the dusting machine.

Favorable Results Secured by Good Dusting Work

1. Bright fruit, less second and third grade.
2. Larger size fruit.
3. Less droppage of both young and mature fruit.
4. Healthier tree condition.
5. Less decay of fruit after picking.
6. Delayed wilting of fruit after maturity.

Dust to Use

With extra-careful work and applying plenty of dust, any good commercial dust is satisfactory.

For maximum results under average applications, use flower of sulphur.

JAPANESE BEETLE QUARANTINE RULES MODIFIED

The Secretary of Agriculture has announced an amendment to the Japanese beetle quarantine regulations, modifying the plan of classification of nurseries, greenhouses, and other premises concerned in the movement of nursery and ornamental stock. The amendment is to become effective June 15, 1931.

As a basis for the issuance of Japanese beetle inspection certificates in the past, nurseries and greenhouses have been divided into Classes I, II, and III. Essentially, Class I has consisted of premises more than a mile from an infestation; Class II, of premises as yet uninfested but within a mile of which Japanese beetles have been collected; and Class III, of infested premises, or premises within 500 feet of which Japanese beetles have been found. The restrictions on Class II involved repeated diggings on the premises to determine whether the larvae of Japanese beetles were present, the removal of soil partially or entirely from plants to be shipped to uninfested sections, the screening of coldframes, and the lead arsenate treatment of beds in which potted

plants are plunged during the fall, winter, or spring.

In view of the fact that in the administration of these requirements, no larval infestation has been found to the collection of adult Japanese beetles, either on the premises or in the immediate vicinity, these restrictions are being discontinued, with resulting economy of operation and the relief of nurserymen and florists as to some of the difficulties of compliance with the quarantine requirements. At the same time they do not, in the opinion of the department, involve increase in risk of spread of the Japanese beetle.

In the future, noninfested premises in the lightly infested areas will be designated as Class I unless Japanese beetles have been found within 500 feet of the nurseries or greenhouses concerned, or unless some special circumstances create danger that infested plants or soil may have reached the premises. Hereafter the proprietors of such nurseries and greenhouses will not be required to report to the department shipments to places outside the regulated areas. Under similar circumstances, non-

infested premises in the generally infested areas will normally be classed as Class II, but many of the former restrictions as to Class II nurseries or greenhouses will be discontinued. The proprietors of such Class II properties in the generally infested areas will be required to report to the department all shipments made to places outside the regulated areas, but certificates will be issued for shipments from such premises without inspection other than that required to establish the status of the premises as being non-infested, and without meeting the special safeguards prescribed as a condition of interstate movement of plants originating on infested properties.

Class III will, as heretofore, consist of premises in both the lightly infested and generally infested areas where Japanese beetles have been found either on the premises or within approximately 500 feet of them. Stringent restriction will continue as to the protection from infestation of the plants grown on such premises, and the treatment of the soil accompanying such plants.

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Citrus Grove Practice On The High Pine Lands

Paper Read by N. H. Vissering of Babson Park, Fla., at the Annual Meeting of the Florida State Horticultural Society at Miami, April 12, 1931

Mr. Chairman; Fellow members of the Horticultural Society: I deem it a great honor to be called to deliver a paper at this meeting. The subject assigned to me was Citrus Grove Practices on the High Pine Lands. In the following pages I have endeavored to outline the trend of grove practice on the highlands. I have also taken the liberty of setting forth a few of my own theories and experiences.

Grove practice on the High Pine Lands is undergoing very radical changes. Progressive growers are continually searching for new ways by which they can cut their production costs and still raise larger crops of high quality fruit. Anyone who keeps an accurate record of production costs will readily note that there are two major cost items; namely, fertilizer and labor. If any substantial savings are to be made in the cost of production these two accounts are the logical ones to examine first.

Let us consider first the fertilizer item. There is a growing tendency to use materials instead of mixed goods. Apparently satisfactory results have been received by cutting the amount of phosphoric acid used and applying this material once a year. Many growers are also applying all their potash in one or two applications, using either muriate or sulphate. I am not prepared to say, however, that satisfactory results have been received by reducing the amounts of potash applied. There is also a tendency to turn from the use of the expensive organic sources of nitrogen to the cheaper chemicals. It has been quite conclusively proven that quality fruit can be grown with these cheaper fertilizers providing the grower uses intelligence in their application and the rest of his grove practice.

For the grower who intends to cut his costs by using chemical ammoniates, I have several recommendations to make. First and most important he should either supervise the fertilization of each tree personally or have this done by someone whose judgment can be relied upon. Most of these chemicals are

very high in analysis and are not fool proof. There was very little temptation for a man to overfertilize a tree by the old method, because that meant real work but with these new high powered products mistakes are so easily made. My second recommendation is that the grower increase the number of applications of ammonia made during the year. This will prevent leaching, reduce the possibility of mistakes and provide a more uniform supply of plant food which is essential in the pursuit of quality. Third he should insist upon even distribution, and fourth if the organic matter is left out of the fertilizer bag it should be applied through some other means. Cover crops are the cheapest source and too much can not be said of their importance. *Crotalaria Sericia*

appears to be the most desirable crop to use because it is repellant to pumpkin bugs, yields a large amount of organic matter and is easily disposed of in the fall. On land that does not grow good cover crops it might be good economics to haul in some cheap organic. I have on my grove at present a large pile of muck which I have been composting with manure for some time preparatory to applying it to such land.

Many growers are also becoming aware of the important part played by a number of the so-called secondary elements in the diet of their trees. A deficiency of calcium is probably easier to notice in a grove than a shortage of any of these plant foods. Following Professor Lord's address at the annual meeting of this society in Sebring a number of grow-

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ers, myself included, experimented with Calcium Nitrate as a quickly available source of Calcium. This material has proven very efficient in eliminating a type of Frenching, very common in the Ridge section.

Next to the change in fertilizer practice probably the most radical change to be noted is in the practice of cultivation. Growers are abandoning the wasteful habit of frequent cultivation. They will probably only do enough in the future to prevent damage from fires and frost. The old theory of the advisability of a dust mulch seems to be exploded. Several winters ago I was making some tests on winter cover crops in my grove. This happened to be a very dry winter. Everyone in our section was hauling water to their groves to revive wilted trees. It was very interesting to note that I had fewer trees suffering from drought in the areas where I had a good winter cover crop growing than in the clean cultivated areas. I might also add that the quality of the fruit in the uncultivated areas was also infinitely better.

Hoeing is still general practice but it seems quite likely that this may be omitted in the future.

The aforementioned changes may

be made by any grower, regardless of his acreage. Further reductions in grove expense must come from savings made possible by large scale production. Many men have known the facts which I am about to state but have refrained from discussing them publicly because of the possible effect they might have on real estate values. This season we have come face to face with the common problem of practically all American industries: over production, and yet the present crop will soon be dwarfed by what we will produce in the very near future. According to the United States Department of Agriculture we will soon be confronted with the problem of marketing Twenty Three Million boxes. To meet this keen competition very radical changes will have to be made both in our production and marketing systems. The inevitable results will be the same in our citrus industry as it has been in other great industries—combination. The grower who lives in Florida can avail himself to a considerable degree of the benefits of large scale production by co-operating with his neighbors in buying materials and joint ownership of equipment. However, I believe that the stage is set for the advent of a

relatively new unit, the Citrus Corporation. Instead of groves in the future being owned and operated by caretakers I look for them to be owned and operated by large corporations, who will be in a position to avail themselves of all the benefits of large scale production.

I hope that these remarks will not class me as an alarmist. I have every reason to believe that the citrus industry of the Ridge section and the state as a whole will survive the competition but I also believe that the time has come when the individual grove owner will have to really run his business and take advantage of all possible savings if he wants to show a profit from his operations five years hence.

I also hope that I will not be taken too literally when I advocate reducing costs. I honestly believe that the observations I have made earlier in this paper can be followed to the benefit of the fruit as well as the pocketbook. I am not prepared, however, to go as far as some of our more radical cost cutters and say that we can do away with our spraying and pruning. I know that a certain amount of both is essential.

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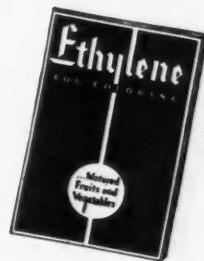
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UTILIZATION OF CITRUS FRUITS

(Continued from page 10.)

juice, especially if it lacks some of the color and flavor of its artificial competitor.

Along with other uses, the home demonstration workers are stressing the use of citrus by-products in baking—orange bread, for instance, instead of raisin bread — fruit cakes made from our own fruits instead of imported ones. We believe that orange pie can become as popular as lemon pie. The public can create a demand which will popularize this delicious food stuff which we produce in such abundance—popularize it above any of the imported products or substitutes.

Nothing worthwhile just happens. It must be brought about. It is the duty of all of us to bring about an increased utilization of citrus fruits —first, because of their health giving properties; and second, because of financial income resulting from their production and utilization.

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Many jobbers who have not applied for Government licenses under the terms of the Perishable Agricultural Commodities Act, in the belief that the law does not affect them because their purchases are made from local receivers of fruits and vegetables, must be licensed, in the opinion of the Solicitor of the Department of Agriculture.

There are instances, says the Solicitor, when jobbers may be construed to be doing an interstate business in fruits and vegetables even though the financial transaction is between the jobbers and a local receiver, as in a case where the receiver has obtained produce from producers or shippers in another State.

In view of this opinion the department urges all firms or individuals doing a jobbing business in fruits and vegetables to make application for licenses under the Perishable Agricultural Commodities Act, enclosing a check for ten dollars payable to the Disbursing Clerk of the U. S. Department of Agriculture.

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